Psychological Approaches to Obesity Interventions

by

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Table of Contents Page Number

List of Figures and Tables

Chapter I: Literature Review - Mindfulness-Based Approaches for People who are Overweight and Obese: A Systematic Review

Chapter II: Empirical Paper - The Impact of Weight Controllability Perceptions on the Help Offered to a Significantly Overweight Child and an Exploration of how Interventions May be More Effective

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Declaration

This thesis has been written for submission as partial fulfilment of the requirements for the Coventry University and the University of Warwick Clinical Psychology Doctorate Programme and has not been submitted in support of an application for another degree at any other university or institution. The thesis is the candidate's own work, carried out under the supervision of Jacky Knibbs and Professor Fiona MacCallum.

Summary

Obesity is one of the most significant health concerns across the world, particularly in developed countries, and there is no evidence to suggest that obesity is becoming less prevalent. There are many physical, psychological and social consequences from being obese. Nevertheless, interventions to date have been generally unsuccessful at providing long lasting effects. Furthermore, there has been a general lack of attention given to non-weight factors relating to overall well-being. The literature review presented in chapter 1 critically evaluates the research to date exploring the efficacy of mindfulness-based interventions for overweight and obese adults. The promising initial indications that this 'third-wave' approach offers are discussed within the methodological limitations of current research. Clinically, the approach appears to have potential, although future research should aim to have greater consistency in defining what constitutes a mindfulness approach. The empirical paper presented in chapter two explores how the attributions made by trainee teachers about the cause of weight gain may impact on helping behaviour in a school setting. A mixed methodology questionnaire design is used. This incorporates a vignette about a significantly overweight child and a series of open ended questions to explore the factors that trainee teachers see as key considerations for making interventions for obese children more effective. The results are discussed within the context of how healthcare professionals may offer a valuable role in training and coordinating intervention efforts. The final chapter is a reflective paper summarising some personal, professional and academic experiences that occurred during my thesis. Current and alternative approaches taken towards childhood obesity are discussed and reflected upon.

List of Abbreviations

ACT	Acceptance and Commitment Therapy
ANOVA	Analysis of Variance
BAOP	Beliefs About Obese Persons Scale
BBC	British Broadcasting Corporation
BMI	Body Mass Index
CAMHS	Child and Adolescent Mental Health Services
CBT	Cognitive Behaviour Therapy
DBT	Dialetical Behaviour Therapy
DSM-V	Diagnostic and Statistics Manual 5th Edition
DV	Dependent Variable
IV	Independent Variable
MANOVA	Multivariate Analysis of Variance
MBCT	Mindfulness-Based Cognitive Therapy
MBEAT	Mindfulness-Based Eating Awareness Training
MBSR	Mindfulness Based Stress Reduction
MEAL	Mindful Eating and Living
NHS	National Health Service
PASW	Predictive Analytics Software
PGCE	Post Graduate Certificate in Education
UK	United Kingdom

Mindfulness-Based Approaches for People who are Overweight and Obese: A Systematic Review

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Abstract

Obesity is becoming increasingly prevalent and with it so are the economic and individual costs. To date many treatment approaches have been unsuccessful in producing long-term benefits for individuals who are overweight and obese. However, a new wave of mindfulness-based interventions may offer an alternative framework from which to approach this problem. A systematic review of the literature identified 14 papers that have investigated the effects of mindfulness-based interventions for obese and overweight individuals. There are preliminary indications that this approach may offer not only the potential for weight-loss that can be maintained over the long-term but also improved psychological well-being with minimal professional involvement. However, a number of methodological considerations still need to be addressed including small sample sizes, a lack of adequate controls and a lack of sufficient participant diversity. Further thought needs to be given to the broad umbrella of interventions that are considered to constitute a mindfulness approach so that it does not simply become a collection of 'add-on' techniques. Nevertheless, the research to date now justifies the pursuit of further high quality clinical trials to confirm promising initial indications.

Introduction

Estimates in 2010 suggested that 68% of men and 58% of women in England were obese or overweight (1). The costs of obesity can be significant both to the individual and to government health and social care agencies. Obesity leads to an increased risk of several health complications

that can limit life expectancy including type II diabetes, hypertension, coronary heart disease and cancer (2). There is also evidence that obesity contributes to the risk of depression, low self-esteem and poor body image (3). Medical care costs for those who are obese are estimated to be up to 9.1% of a country's total health care expenditure (4) which amounted to direct and indirect economic costs of £6.6-£7.4 billion in England during 2002 (5). It is predicted that the steady increase in the number of obese and overweight people over recent years will continue (1). If this is the case then it can only be expected that the demand for care and treatment will also increase.

Obesity is commonly defined as a Body Mass Index (BMI) of over 30kg/m^2, and overweight as a BMI of over 25kg/m^2 (1). The exact causes of obesity vary individually but are likely to be a complex interaction between genetic, environmental and psychosocial factors (6). Despite this, many interventions target specific causes, with treatment approaches typically including surgery (7), medication (8), or behavioural interventions (9). When comparing interventions, surgery has been identified as more successful in achieving weight-loss and changed eating behaviour than psychosocial interventions (10). However, weight regain following surgery is still common with patients typically returning to obese status after 10 years (11). Furthermore, a review found that quality of life is infrequently investigated following surgery and, where it is reported, there is sometimes no change in psychological adjustment or health related quality of life (12). This is also true for people with psychiatric difficulties that persist postoperatively (13).

Despite being less effective than surgery, behavioural interventions still result in short-term weight-loss (14). These interventions typically involve dietary and exercise advice being given to groups and occasionally include a monetary incentive. However, as with surgical interventions, behavioural approaches rarely investigate quality of life (14) and there is a lack of evidence to demonstrate any longevity of effect; a finding that is replicated with pharmacological interventions (15-16). A further problem for both behavioural and pharmacological interventions is the high levels of attrition. Wu, Gao, Chen et al. (17) conducted a meta-analysis that identified dropout rates of up to 65% in diet and exercise interventions and Fabricatore et al. (18) reported dropout of up to 52% in their systematic review of pharmacological weight-loss trials. This has led some authors to conclude that efforts should instead focus on preventing weight gain rather than waiting until someone is obese before providing an intervention (19-20). Nevertheless, even if preventative approaches are adopted, some form of treatment will still be needed.

One of the potential reasons for the lack of success to date is that healthcare providers are more likely to want to offer help than overweight and obese patients are to seek help (21). Patients are more likely to think that talking about weight-loss strategies will be unhelpful, unnecessary and blaming (21). In fact, paradoxically, individuals who focus on avoiding weight gain are more likely to gain weight over time (22). It may therefore be that, for some, increasing the importance of weight-loss leads to a reduction in self-esteem

and self-efficacy when this is not achieved. This may, in turn, reinforce attitudes that contribute to long-term weight gain. Traditional lifestyle interventions for weight management have been more successful when individuals have had high self-efficacy, motivation to lose weight and fewer historical weight-loss attempts (23). In contrast, individuals who display certain 'risk factors' – emotional eating, depression, perceived hunger, and eating disinhibition – are consistently less likely to lose weight (23). It could be predicted that one of the potential reasons for the lack of long-term success so far is that interventions have not specifically targeted these 'risk factors'. Adopting an approach that specifically addresses them may therefore be beneficial to obese individuals. Mindfulness is an approach that has theoretical principles which can directly be applied to these risk factors. It may therefore offer an alternative framework from which to tackle obesity.

Mindfulness can be defined as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment" (24; p.145). It is through increased awareness, and acceptance, of internal and external states that individuals are able to respond in a way that is different to their typical, unhelpful, automatic reaction. This attitude is believed to facilitate greater: self-regulation; emotional, cognitive and behavioural flexibility; clarification of what is valued; and greater objectivity towards unpleasant experiences (25). Mindfulness ideas currently inform a number of different therapeutic approaches including Mindfulness-Based Cognitive Therapy (MBCT), Mindfulness-Based Eating Awareness Training (MB-EAT), Acceptance and

Commitment Therapy (ACT) and Dialectical Behaviour Therapy (DBT) (26). All of these interventions aim to foster a state of awareness and non-judgemental acceptance through meditation. Additional aspects of each approach then differ according to theoretical stance or focus: MBCT increases awareness of cognitive processes and their impact on mood (27); MB-EAT specifically addresses eating awareness (28); ACT increases psychological flexibility by separating actual, and interpreted, functions of behaviour (29); whereas DBT increases awareness to reduce extreme behavioural reactions (27).

Mindfulness-based interventions have recently been used for a range of physical and mental health difficulties ranging from cancer (30), heart disease (31) and chronic pain (32), to anxiety (33), depression (34) and bulimia (35). To date, there have been several reviews that have explored the effects of mindfulness-based interventions. One meta-analysis (36) found that mindfulness-based therapies helped a wide range of symptom severities in anxiety and depression. A further meta-analysis (37) found that physical health and mental health symptoms significantly improve as a result of mindfulness training. There is also a growing body of evidence to suggest that mindfulness can effect neurobiological changes and that longer-term practice may be linked to structural changes within the brain (38).

Review Aims

The efficacy of mindfulness for psychological and physical well-being suggests that it might have benefits for people who are obese or overweight.

Specifically, the principles of mindfulness may relate to weight control by increasing awareness of external (e.g. social, emotional or conditioned) and internal (e.g. satiety and hunger) cues to eat (28). Alternatively, it may aid the recognition of unhelpful, automatic, patterns of behaviour that prevent the individual from moving in a direction they truly value (39). Whilst some reviews of mindfulness interventions have identified that obese or overweight participants were included in the studies (37), there has been no mention of the effect of the intervention on these participants specifically. There is also no known review or meta-analysis that has exclusively explored the effect of mindfulness-based interventions on obese and overweight individuals. Therefore, it is the aim of this review to:

1) Critically evaluate the effects of mindfulness-based programmes for obese and overweight people.
2) Evaluate the impact of mindfulness-based programmes on non-weight related factors such as mental well-being.
3) Explore rates of attrition from these interventions.
4) Discuss the implications for future research and clinical practice

Method

Search Strategy

Automated searching was conducted using PsycINFO, Web of Science, Medline and The Cochrane Library. The following search terms were combined and searched for within the abstracts, topics and keywords of articles: (obes* OR overweight) AND (mindful* OR acceptance OR DBT)

AND (interven* OR program* OR approach*). Studies were not excluded on the basis of publication date. The identified articles were then refined through a process of four stages. First, all of the abstracts were read to determine whether the study was relevant to the present review. Where there was any ambiguity the paper was kept so as to not risk excluding potentially relevant studies. Second, the remaining papers were checked for duplicates. Third, articles were read in full to determine their relevance to the present review. Fourth, additional references that arose from reading these papers were then found and subjected to the first three stages; see Table 1 for a summary.

Inclusion Criteria

The inclusion criteria used to determine suitability for the review were:

1. The article is from a peer reviewed journal.
2. The focus of the article is the effectiveness of an intervention employing a mindfulness approach. As in Grossman et al. (37) mindfulness is defined as consisting of:
    a. A focus on moment-to-moment awareness;
    b. Teaching of formal meditation techniques; and
    c. Regular practice of these techniques.
3. The article includes participants where the mean BMI is greater than or equal to 25 at the start of the intervention.
4. The article is in English.
5. Data have to be available that can be used to determine the effectiveness of the intervention.

The papers that remained at the end of this process formed the basis of the present review. In all, 14 papers were identified including a total of 394 participants. See Table 1 for further information.

Table 1 *Articles included in systematic review*

Database	Date searched	Papers identified	Appropriate abstract
PsycINFO	01/02/2012	106	19
Web of Science	01/02/2012	397	29
Medline	01/02/2012	272	16
Cochrane Library	02/02/2012	24	7
Other references		6	6
		Subtotal 1	77
		Duplicates removed	27
		Subtotal 2	50
		Inappropriate for review	36
		Appropriate for review	14

Review

Interventions for Obese and Overweight Individuals without Co-morbidities

A total of seven papers explored the impact of mindfulness-based interventions for individuals who were overweight and obese without other co-morbidities (see Table 2). However, there was some variety in the aims of the studies. Two had a predominant focus on weight-loss and the adoption of a healthy lifestyle alongside mindfulness techniques (40-41). One study focused on reducing food cravings (42), whereas two others (43-44) aimed to help individuals increase awareness of overeating and adopt new lifestyle behaviours. Finally, two papers aimed to increase awareness of emotional eating and reduce associated negative affective states (45-46). Table 2 provides a summary.

Table 2 *Summary of papers offering interventions to individuals who are obese & overweight*

Author & Year	Method	Participants	Intervention	Outcome
Davis et al. (2008) (40) & K. Davis (personal communication, 17th January, 2012)	Randomised group intervention with pre- & post-data. 3 groups: control, mindfulness & resistance training.	64 females 8 males, Mean age=45, Mean BMI=32.9.	12 session behavioural weight-loss programme. Mindfulness & Resistance training groups received extra input.	All groups had: increased physical activity; weight-loss eating behaviours; & decreased weight (Mindfulness 5.5kg, Resistance 6.2 kg, Control 5.6kg, $p>0.5$). Attrition: Mindfulness 17%, Resistance 35%, Control 34%.
Singh et al. (2008) (41)	Single case lasting 5 years with 1 year follow-up. One week of therapist input	One 30 year old male, BMI=44	Walking, food awareness & mindfulness.	BMI reduced to 24.5 (loss of 63kg), maintained at follow-up. Increased lifestyle satisfaction & decreased physical distress. 0% attrition.
Alberts et al. (2010) (42)	Randomised, controlled, group intervention with pre- & post-data. 12 week follow-up.	17 females 2 males, Mean age=51.8, Mean BMI=31.3	10 sessions of diet & exercise training. Additional acceptance and mindfulness manual for experimental group.	All decreased in: expectancy that food=positive outcome; & weight (1.92kg mindfulness, 1.11kg control, $p>0.5$). Mindfulness group had decreased: food cravings; loss of control; food preoccupation. 0% attrition.
Tapper et al. (2009) (43)	Randomised controlled trial group intervention with pre- & post-data. 4 & 6 months follow-up.	62 females, Mean age=41, Mean BMI=31.6	4 workshops based on ACT with accompanying manual.	Intervention group had: reduced binge eating; increased activity; and mental well-being. No significant weight-loss. 16% attrition.

Table 2 Continued *Summary of papers offering interventions to individuals who are obese & overweight*

Author & Year	Method	Participants	Intervention	Outcome
Forman et al. (2009) (44)	Group intervention with pre- & post-data. 3 & 6 month follow-up.	29 females, Mean age=43.7, Mean BMI=35.8	12 sessions of Behavioural Therapy and ACT	Decreased disinhibition & emotional eating; 6.6% & 9.6% weight loss at 3 & 6 months respectively. Increased mindfulness, cognitive restraint, motivation & food related acceptance. 34% attrition.
Dalen et al. (2010) (45)	Group intervention with pre- & post-data. 3 & 12 week follow-up	7 females 3 males, Mean age=44, Mean BMI =36.9	6 sessions of Mindful Eating & Living (MEAL).	Reduced: weight ($\bar{x}$=4kg); binge eating; depression; & anxiety. Improved mindfulness & eating behaviours. 0% attrition.
Daubenmier et al. (2011) (46)	Randomised, waiting-list controlled, group intervention with pre- & post-data.	47 females, Mean age=40.4, Mean BMI=31.4	10 sessions based on MBCT, MB-EAT & Mindfulness-Based Stress Reduction (MBSR), with information on nutrition and exercise.	Experimental group had: decreased anxiety & external eating; increase in some aspects of mindfulness. Obese participants showed reduced stress. No change in weight. 4% Attrition.

The interventions offered across these papers implied a wide range of benefits. Most found significant weight-loss over the course of the intervention (40-42; 44-45). In addition, there was evidence to suggest improvements on a variety of psychological well-being measures including reduced anxiety, depression and stress (41-46). However, despite this overall impression, there was some discrepancy in the outcomes and a number of methodological limitations that must also be considered. For example, only four studies included randomised comparison groups (40; 42-43; 46). In these studies there was either no weight-loss (43; 46) or all participants lost weight equally (40; 42). Only two studies had participant numbers above 50 (40; 43); the small sample size was acknowledged as a limitation in four of the five other studies (42; 44-46). Only one study indicated that the analysis had sufficient statistical power (43). Furthermore, Tapper et al. (43) only included participants that were already attempting independent weight-loss meaning that this variable could not be fully controlled for. The sum of these considerations, in addition to the variation with which mindfulness was incorporated into interventions (from core feature to additional 'exercise'), makes it difficult to isolate the actual effect of mindfulness on the outcomes. Data measuring 'trait' mindfulness was only collected in some papers (43-46) which was a missed opportunity to clarify the extent to which this variable influenced others. However, of the two papers that conducted mediator analyses, mindfulness was found to be related to both change in body fat distribution (44) and weight-loss (46).

Part of the discrepancy in outcomes might be explained by the methods of data collection. Six studies were group interventions that took pre- and post-intervention measures. However, the follow-up periods were typically short, ranging from 0-6 months. Only one study investigated the impact of an intervention over several years (41). Here, the longevity and degree of change were, without doubt, very large; 46% of initial body weight was lost over five years and maintained for one year. However, it too was limited by its single-case design. It may therefore be of note that one of the studies observed that mindfulness did not emerge as a mediator of weight-loss until data collection at 6-months (44). In addition, three studies (43-44; 46) found a dose response, such that the effect of the approach was greater for individuals that reported applying mindfulness techniques more. Bearing these facts in mind it might therefore be that the short follow-up periods that were employed in the other studies actually missed the potential benefits that could occur over the long-term following a mindfulness intervention.

When considering rate of attrition, three studies observed 100% completion rates (41-42; 45). Others had a maximum of 28% attrition (40; K. Davis, personal communication, 17th January, 2012) apart from one (44) which had dropout rates of 34% and 52% at post-intervention and follow-up respectively. Low dropout across most of the studies may have been related to them often having small sample sizes. Rate of attrition is therefore worth continued exploration in future trials. A further consideration was the limited demographic diversity of the samples. Nearly all of the participants were Caucasian females in their 40s and 50s. Whilst this demonstrates a degree

of support for mindfulness interventions with this group, further research is needed with other groups before results can be generalised.

Interventions for Individuals with Co-morbid Prader-Willi Syndrome

Prader-Willi Syndrome is a genetic disorder that is characterised by several features including hyperphagia (excessive eating), which predisposes many with Prader-Willi Syndrome to a risk of obesity (47). Prader-Willi Syndrome is estimated to affect around 1:29,000 births in the United Kingdom (48). Two papers explored the impact of mindfulness interventions for individuals that were obese and had Prader-Willi Syndrome. The first evaluated an intervention aimed at aiding weight-loss and eating control in an adolescent using a single-case design (49). The second (50) aimed to extend these results with a sample of three adolescents with Prader-Willi Syndrome. Both studies employed a therapist-assisted remote-treatment methodology. This, specifically, translated to each individual's mother acting as the primary therapist with a trained therapist providing email consultation. Both studies recorded weight-loss as the primary outcome measure and incorporated three different mindfulness exercises; mindful eating, visualising and labelling hunger and meditating on the soles of the feet. See Table 3 for details.

Table 3 *Summary of papers offering interventions to individuals that are obese or overweight with Prader-Willi Syndrome*

Author & Year	Method	Participants	Intervention	Outcome
Singh et al.(2008) (49)	Therapist-assisted remote-treatment study. ABCD design lasting 4 years with 3 year follow-up.	One 17 year old male with Prader-Willi Syndrome	Exercise, food awareness & mindfulness.	BMI reduced from 57.2 to 42.8 (29.8kg), maintained at 3 year follow-up. 0% attrition.
Singh et al. (2011) (50)	Therapist-assisted remote-treatment study. AB design lasting two to six years with 3 year follow-up.	Three 16-19 year old males with Prader-Willi Syndrome	Exercise, food awareness & mindfulness.	BMI reduced from 34.3 to 23.3 (21.3kg), 34.6 to 21.8(24.3kg) & 62.3 to 24.8 (93.6kg). All maintained loss. 0% attrition.

Significant weight-loss was demonstrated in all participants amounting to between 26% and 60% of original weight. Furthermore, these losses were sustained for a period of three years following the intervention showing a strong longevity of effect. These results were, perhaps, even more noteworthy when considering some features of Prader-Willi Syndrome, such as intellectual disability and gross motor delay (47), which could have made it difficult to adhere to a long-term intervention incorporating weight-loss and exercise. The results achieved in both papers required minimal professional involvement, of up to 17 hours. When considering the health economics of modern healthcare, this may make the intervention of particular interest if it were similarly successful when implemented en masse.

Despite the successes, one of the limitations was that the results only applied to four participants in total. This meant that there was no opportunity to include control groups, comparison treatment groups or to isolate mindfulness as the key agent of change. Whilst in the first study total weight-loss was much greater when the mindfulness component was added (49), this alone provides insufficient evidence to draw firm conclusions about the impact of the mindfulness part of the intervention. Controlled trials offering alternative treatment groups with greater numbers are needed to confirm these effects. A second, potential, limitation was that the intervention relied on the individuals' support networks. Participants' mothers implemented therapeutic elements, collected data, provided the resources to buy alternative, lower calorie, foods and provided a source of external motivation for up to nine years. For people without the same level of support, the

intervention may rest on high levels of external input which could increase the cost and affect the success of the approach. A further consideration for both papers was that no formal measures of quality of life or mental well-being were taken. Whilst there was some anecdotal evidence about the wider benefits of the intervention, there was no opportunity to determine whether the participants themselves perceived the changes as positive.

Interventions for Individuals with Co-morbid Binge Eating Disorder

Binge eating disorder can affect individuals of any weight. However, because it is characterised by recurrent episodes of excessive consumption, without subsequent compensatory strategies (such as purging or fasting), obesity is a common consequence of the condition (51). Three papers evaluated the effect of mindfulness interventions for overweight or obese people with binge eating disorder or symptoms of binge eating disorder (see Table 4). One explored the effects of mindfulness meditation for women with binge eating disorder (52). The second evaluated an MBCT intervention for women with binge eating disorder or characteristics of binge eating disorder (53). The third explored the effects of an MBSR course on binge eating symptoms (54). All three of the studies had a significant focus on eating awareness and did not directly aim to aid weight-loss.

Table 4 *Summary of papers offering interventions to individuals that are obese or overweight with binge eating disorder*

Author & Year	Method	Participants	Intervention	Outcome
Kristeller et al. (1999) (52)	Group intervention with pre-, during- & post-questionnaire data	21 females, Mean BMI=40.33, Mean age=46.5	6 week, 7 session, meditation programme	Decreased binge eating, anxiety & depression. Increased: eating control; mindfulness; awareness of satiety & hunger. No overall change in weight. 14% attrition.
Baer et al. (2006) (53)	Group intervention with pre- & post-questionnaire data	10 females, BMI range, 22-40, Age range 23-65	10 session adapted MBCT programme.	Most showed decreased binge eating & depression. Increased awareness & acceptance. No weight-loss. 0% attrition.
Smith et al. (2006) (54)	Group intervention with pre-, during- & post-questionnaire data	20 females 5 males, Mean BMI=27.9, Mean age=47.8	8 week, 9 session, MBSR programme with workbook	Decrease in binge eating, depression & anxiety. Increase in self-acceptance, mindful awareness & attention. Post-intervention weight not measured. 0% attrition.

Overall symptoms of binge eating and depression were found to decrease over the 6-10 week interventions, for a wide range of symptom severities, in all studies (52-54). Unfortunately, the three papers all included a relatively small, homogenous group of participants which limits the generalisability of this research. However, the fact that the samples were homogenous means that because three papers independently found similar outcomes the strength of conclusions that can be made for Caucasian females with binge eating disorder is greater, despite small numbers. One of the advantages of these papers was that each included explicit details about the interventions, which adhered closely to the principles of a mindfulness approach. It was an additional strength that all used similar questionnaires, such as the Binge Eating Scale and Beck Depression Inventory, as this allowed for an easy comparison between studies and leaves open the opportunity for future meta-analytic review. The average dropout rate was relatively low at 9%, although it should be considered that one of the analyses only consisted of data from 60% of participants as some did not complete follow-up measures (53).

All three papers acknowledge that the intention was only to ‘explore’ or ‘pilot’ mindfulness approaches. Nevertheless, only one analysis had sufficient statistical power (54); therefore, greater participant numbers would have been beneficial. Methodologically, there were also some important considerations. One major limitation was that none of the studies had a control group, which makes it difficult to attribute the observed effects solely to mindfulness-based treatment. Furthermore, the follow-up period for each

was between one and four weeks after the intervention had finished. This, therefore, did not allow for a real understanding of the longevity of the benefits that were noticed either. As discussed above, the short follow-up period may actually have done a disservice to the effects of the intervention, for example on weight. Whilst weight-loss was not a specific focus of the interventions, it may have been affected by the significant changes in eating behaviour over the longer-term. Without more follow-up data the potential to measure this was missed.

Interventions for Individuals Following Other Weight-Loss Treatments

Two papers were identified where participants were selected specifically on the basis that they had already received treatment for their weight and were still experiencing difficulties. One offered an intervention to individuals that were having difficulties regulating their food intake following weight reduction surgery (55). In contrast, the other offered an intervention to obese individuals who had many previous attempts at losing weight in structured weight-loss programmes (56). Both papers actively avoided promoting weight-loss. Instead, the first focused on eating behaviours that contributed to weight gain, promoting psychological well-being and adjustment following surgery (55). Conversely, the second focused on participants' weight-related stigmatising thoughts using the assumption that through improving general well-being there may be secondary benefits for weight control (56). Table 5 displays a summary.

Table 5 *Summary of papers offering interventions to individuals that are obese or overweight following other weight-loss treatments*

Author & Year	Method	Participants	Intervention	Outcome
Leahey et al. (2008) (55)	Group intervention with pre- & post-data.	Six females one male. BMI range=35-52.4, Age range=49-64.	10 sessions of mindfulness, Cognitive Behavioural Therapy (CBT) & adaptive coping skills.	Reduced binge eating & emotional eating. Increased eating self-efficacy, rate of weight-loss & shape concern. Most had reduced: depression; eating concerns; weight concerns; & eating guilt. Most had increased effort to change eating & emotion regulation. On average 78% of expected weight loss was achieved (≈7.6kg). 0% attrition.
Lillis et al. (2009) (56)	Randomised, waiting-list controlled, group intervention with pre- & post- data. 3 month follow-up.	77 females 10 males, Mean BMI=33.02, Mean age=50.8.	6-hour, ACT workshop with accompanying workbook.	Weight-loss: 1.7% mindfulness, +.5% Control ($p<.001$). Mindfulness group had reduced: psychological distress; weight related stigma; & increased: quality of life, distress-tolerance, & understanding of ACT principles. Weight specific ACT processes mediated all outcomes. 3% attrition.

It is important to bear in mind with these papers that the participants had experienced prior difficulties in achieving their goals. This may, therefore, have made it less likely that change should have been expected from 'any' intervention being offered. Nevertheless, both interventions resulted in improvements to psychological well-being as well as a reduction in weight even though weight-loss was not a focus. Furthermore, the second of the two studies had sufficient participant numbers to include a control group (56). Here, the differences between the intervention and control groups had moderate to large effect sizes, which adds to the robustness of the conclusions. Neither study had any significant exclusion criteria other than being younger than 18, making the intervention potentially very inclusive. There was also very little attrition in either study, with one only having three dropouts from the intervention group (56). The short duration of both interventions may have accounted for this low dropout. However, given the positive outcomes, shorter treatments might be more appealing to participants and therefore could have greater clinical utility.

The first of the two studies had a very small sample which meant that there was insufficient power for statistical analysis (55). There were methodological limitations in the lack of a control group and follow-up measures. Additionally, the effects of the intervention were not uniformly beneficial; in particular the increased body shape concern following the intervention. It is suggested that the change in this factor reflected a new interest in improving appearance (55). However, it is also possible that the intervention successfully impacted on attitudes to weight but only by shifting

the focus of anxiety to another problem, that of shape. Whilst the other study (56) did not share the same methodological problems, unfortunately, it did not describe many specific details of the intervention either. This made it difficult to establish the exact role of mindfulness. It is also worth considering that, whilst the rate of attrition was low, only 87 of 148 participants who were eligible, and expressed an initial interest, actually participated (56). Furthermore, participants were almost exclusively Caucasian females in their 40s and 50s. Therefore, whether the effects of the intervention are generalisable to other groups still needs to be demonstrated.

Discussion

Summary of Findings

There is preliminary evidence to suggest that a mindfulness-based approach is beneficial to individuals who are seeking to lose weight and that these effects can be sustained for long periods of time. Nine studies resulted in weight-loss and three of these demonstrated successful weight maintenance for a period of five to nine years (41; 49-50). However, four studies did not find any effects of the intervention on weight (43; 46; 52-53). Two factors might explain this discrepancy. First, follow-up periods were often short which is an important consideration given the extent of change that is expected through mindfuless-based interventions. The process involves learning and incorporating meditative techniques into daily life in conjunction with a completely different attitude to experience – that of increased awareness and non-judgement. It may therefore be that many changes to weight cannot be expected in a short timeframe. This is supported by the

observation that weight-loss was achieved in studies with longer follow-up (41; 49-50). The second point is that some studies deliberately did not focus on weight-loss. Therefore, when evaluating the effectiveness of interventions for obese and overweight people it is important to consider what constitutes an outcome as weight-loss may not be the primary aim for all individuals.

Most of the studies incorporated outcome measures relating to psychological well-being (e.g. depression, anxiety, stress) and quality of life. Where this was investigated, the overall effect of interventions was to decrease psychological distress and increase quality of life. In addition to this, there were several other factors that were positively influenced including, emotional eating, satiety, binge eating and food cravings. These factors are similar to those that have previously been identified as 'risk factors' that predict poor long-term outcomes. The fact that mindfulness interventions demonstrated a positive effect on reducing these factors in the short-term may consequently suggest that the approach offers the potential for improved long-term outcomes. As already stated, it is therefore unfortunate that post-intervention follow-up periods were not greater as without this data the long-term well-being of participants cannot be confirmed. Rates of attrition were generally lower than other treatment approaches for obesity. Dropout ranged from 0-34% but only two studies had attrition of more than 16%. Despite the low dropout, there was sometimes missing data at follow-up which affected the analyses (five studies had 21-59% excluded from analysis). Furthermore, some studies had small sample sizes which may have decreased the likelihood of dropout. When these factors are considered

with the, sometimes, strict exclusion criteria (e.g. no psychiatric comorbidities, pregnant women or medication) and limited uptake from those that applied to participate, it could be argued that dropout may have been higher if interventions had been open to a broader range of people. Attrition is therefore a factor that warrants continued consideration.

Limitations

The limitations can be considered within five main areas. The first two were the size of samples and the length of follow-up. Overall, most studies included small samples and a follow-up period that may have been inadequate to confirm the longevity of effects. This was a limitation not just in terms of confirming the generalisability and duration of effects but also because some other beneficial effects, such as weight-loss from changed eating behaviour, could have been predicted to emerge over the long-term but did not show in the short timescales used. Another limitation was that many of the studies did not use a randomisation procedure to allocate treatment type and did not include control or comparison therapy groups. This was often because of the small sample size. However, it is important that future research incorporates a randomisation procedure to provide a more stringent test of mindfulness-based interventions for obese and overweight individuals. The fourth area of limitation is the typical demographic of participants. The vast majority were Caucasian females in their 40s and 50s. The occasional inclusion of participants from other demographic groups, such as male adolescents, suggests that interventions

could be effective more generally. However, there was insufficient diversity across the studies in order to state this with any certainty.

A fifth consideration was the variation in how mindfulness was incorporated into the intervention. In general there was a good description about the use of mindfulness in each study. However, mindfulness was often, to a lesser or greater extent, part of a programme including other aspects. Whilst the addition of other techniques and approaches sometimes produced positive results there was some difference as to how much of the whole intervention was based on the principles of mindfulness. This is an important point that needs to be considered in future research. There is otherwise a danger that mindfulness becomes a set of techniques that are incorporated as an add-on to other interventions (24). This may raise potential questions about the extent to which any effects are a consequence of mindfulness. Greater consistency across studies is necessary in the future in order to ensure that the intervention constitutes a mindfulness-based approach rather than an approach using mindfulness techniques.

Clinical Implications

The clinical implications of the research to date are potentially very important. There is initial evidence to suggest that mindfulness-based interventions can offer: considerable weight-loss that is maintained and improves over time; significant improvements to mental well-being and quality of life; interventions that are effective with minimal professional input; and an approach that is successful for groups as well as individuals. On the

face of it, mindfulness therefore seems to offer an ideal framework for intervention. This is why it is essential to highlight the definite limitations to the research so far and that all of these claims need to be substantiated with a significant number of additional, good quality studies. In times where many countries are looking to cut healthcare costs it would seem that if there are effective interventions that can be delivered with relatively limited professional input, then there are potentially important clinical implications from adopting this approach using health economic arguments alone. The fact that there can also be real benefits for individuals, both physically and psychologically, only strengthens the argument further. It therefore seems that further clinical trials on a larger scale are now justified. Inevitably, this approach is unlikely to be universally appropriate. Consequently, it remains to be seen if additional barriers will arise as research in this area continues.

Future Research

Future research should aim to address the current limitations that have already been highlighted. However, a further factor that should be considered is the measurement of outcomes. Across the 14 studies a total of 33 different, formal questionnaire measures were used in addition to weight and other outcome variables (e.g. number of objective and subjective binges, salivary cortisol level, cardiovascular risk factors). This huge variety makes it difficult to make direct comparisons between studies even though many of them had similar factors that they were assessing. Most of the measures addressed three main outcomes: psychological distress, eating behaviours and attitude of mindfulness or acceptance; see appendix ‘a’ for more details.

Not all of the papers included a formal measure from each of these categories; however, it seems important that studies should. This is particularly the case when considering the assessment of 'attitude of mindfulness and acceptance'. Without including a measure looking at this factor it is difficult to tell whether change in mindfulness is causing change in other variables. Therefore, in order to promote understanding and consistency, it is recommended that future research should aim to include a measure addressing each of these areas, in addition to any other outcomes of the study.

Conclusion

The evidence to date suggests that mindfulness-based interventions may offer a range of benefits for obese and overweight individuals, going beyond just weight-loss. However, there is a real need to supplement current research with additional good quality, controlled, trials involving greater numbers of participants. So far a number of studies have lacked these methodological considerations, limiting the strength of the conclusions that can be made. Future research should aim to address these limitations and achieve greater consistency across trials, including improved clarity over how mindfulness forms part of the intervention. This will enhance understanding of how mindfulness may contribute to any changes that are observed. There are now sufficient 'exploratory' studies into the use of mindfulness for obese and overweight individuals to justify further research on a larger scale. This is now the next step that is needed in order to determine whether the approach is showing more than just the initial signs of promise.

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Chapter II: Empirical Paper

The Impact of Weight Controllability Perceptions on the Help Offered to a Significantly Overweight Child and an Exploration of how Interventions May be More Effective

Word Count: 4992 (excluding abstract, tables, figures and references)

Abstract

Objectives. The increase in childhood obesity means that more children are at risk of physical, psychological and social consequences that can impact on school performance. The research aimed to determine the impact of weight controllability attributions on the helping behaviour of teachers towards an obese child. In addition, teachers' ideas about how interventions for obese and overweight children may be more effective were explored.

Design. The study used a vignette methodology that collected qualitative and quantitative data through the completion of questionnaires.

Methods. 146 trainee teachers completed the Beliefs About Obese Persons scale and responded to a series of Likert, 'yes/no' ratings and open ended questions. Vignettes were manipulated according to the level of effort exerted to lose weight and whether weight-loss was achieved or not. Additionally, participants were primed with information about the cause of obesity from a biological or environmental perspective.

Results. Beliefs about the controllability of obesity, level of effort exerted and weight status were not related to helping behaviour. However, a high degree of responsibility and control was attributed to parents. Respondents wanted to provide weight-related help but felt unable to do this and feared doing more harm than good.

Conclusions. School involvement may supplement interventions for obese children although healthcare professionals have an important role in co-ordinating multiagency care. Consultation with teachers may increase their confidence in offering low level supportive interventions. There is also an important training role identified to increase awareness of all potential causes of weight gain.

Introduction

In recent years, there has been a strong media focus on the increasing number of children in developed countries that are overweight or obese. In England in 2010, 31% of boys and 29% of girls under the age of 16 were classified as obese or overweight, representing an increase of up to 6% from 1995 (The National Health Service Information Centre for Health and Social Care, 2012). However, there is debate over the causes of this rise with theories sometimes emphasising the role of highly contrasting factors. For example, proponents of biological theories may focus on the role of metabolism (Ravussin, 1995) and hormones that regulate food intake and body weight (Friedman, 2000; Montague et al., 1997). Conversely, environmental explanations may focus on the role of lower levels of cognitive stimulation at home (Strauss & Knight, 1999) poor access to recreational facilities (Gordon-Larsen, Nelson, Page & Popkin, 2006) and calorific intake (Hill, Wyatt, Reed & Peters, 2003).

Whilst there is some debate over the causes of being above normal weight, the consequences are more certain. Childhood obesity is associated with

many physical health difficulties in adulthood (Reilly et al., 2003). In addition, there are several psychological and social effects that are arguably of greater consequence. Over 83% of people hold negative stereotypes about overweight children (Greenleaf, Martin & Rhea, 2008). Obese children are less accepted and have fewer friends than their peers (Zeller, Reiter-Purtill & Ramey, 2008). Obese adolescents report significantly poorer body esteem and emotional functioning (Modi et al. 2008). Being overweight has been linked to poorer academic performance in the early (Datar, Sturm & Magnabosco, 2004) and middle years of school (Schore et al., 2008). Furthermore, excessive weight gain during the first four years of school has been linked to greater absenteeism in boys and poorer social outcomes in girls (Datar & Sturm, 2006). Some authors have argued that these effects may be accounted for by other factors such as socio-economic status and race (Datar et al.), although this finding is not consistent (Schore et al.). It may therefore be that being overweight during childhood is not a cause of problems in itself but nevertheless indicates the potential for psychological and social difficulties (Ding & Bornhop, 2005).

Bearing this in mind, it is of interest to consider whether different beliefs about the cause of obesity would impact on help being offered to an overweight or obese child. Attributional motivation theory states that the likelihood of one individual helping another is dependent upon their beliefs about three factors; whether the cause of difficulty is 1) internal or external; 2) controllable or uncontrollable; and 3) stable (frequently or regularly occurring) or unstable (Weiner, 1980; 1986). Weiner's (2000) model

highlights perceived controllability as a key factor in this decision making process such that if someone has difficulty in an ‘uncontrollable’ situation, others will respond with sympathy and help. However, if difficulties occur in a ‘controllable’ situation, others respond with anger, reprimand and the withdrawal of help. Given the differing opinions people have towards the causes of weight gain, it could be hypothesised that the perception of weight as controllable (environmentally determined) or uncontrollable (biologically determined) may therefore be an important factor in the decision to offer help.

There is some preliminary support for these ideas. Children under the age of 11 who blame another child for being overweight are less likely to attribute positive traits to them or find them socially and emotionally acceptable (Iobst et al., 2009). Furthermore, children between four and eight are less likely to provide help to a peer that is overweight than one of average weight (Patel & Holub, 2012). Equally, teachers and parents sometimes hold negative attitudes towards obese children (Jimanez-Cruz, Castellon-Zaragoza, Garcia-Gallardo, Bacardi-Gascon & Hovell, 2008) and teachers generally consider weight to be controllable and environmentally influenced (Neumark-Sztainer, Story & Harris, 1999). These findings provide preliminary support for the theorised association between the perceived controllability of weight, negative emotional responses and helping behaviour. However, research has not yet directly explored the relationship between perceived weight controllability and helping behaviour. This is a particular consideration for

teachers' attitudes to help given the school-based difficulties that obese or overweight children can experience.

Some research has looked at how attitudes may change when information about weight gain is provided. Children that are informed about the uncontrollability of weight have reduced negative stereotyping of an overweight peer (Anesbury & Tiggemann, 2000). However, the effects for adults are less clear. Hague and White (2005) found that teachers hold less negative attitudes towards obese children when they are given information about weight related factors. Conversely, Jeong (2007) found that prior health beliefs were more likely to influence helping attitudes in the general population than any information that was provided. Instead, an alternative factor that has been linked to attitude is the perceived effort an obese person exerts to lose weight (Bullock, Stambush & Mattingley, 2011). Nevertheless, given the high prevalence of negative attitudes that remain toward obese people it seems that, whilst the controllability of weight and effort in losing weight are likely to influence judgements, ultimately individuals are regarded more favourably once weight has actually been lost. This is reflected through current interventions, which predominantly focus on weight-loss.

Many studies exploring weight-loss for children promote greater participation in physical activity and a balanced diet at school (e.g. Department of Health, 2010). This is not surprising as the majority of people believe that lifestyle factors are the main cause of obesity (Wang & Coups, 2010). Despite this, the strength of interest in this approach does not match the effectiveness of

it. Hughes and Reilly (2008) reviewed the literature surrounding weight management in children and concluded that there is some promising evidence for the treatment of paediatric obesity. However, the effect of the evaluated programmes was at best moderate and sometimes even non-significant. Furthermore, follow-up measures were generally only taken 12 months after the start of 4-12 month programmes therefore demonstrating no longevity of effect. Hughes and Reilly acknowledged that, if anything, evidence suggested that the effects appear to diminish over time. Consequently, this raises questions about why these programmes are not more effective and whether there are alternative approaches that might be more successful.

Self determination theory states that in order for an individual to feel motivated to participate in an activity, there needs to be a degree of internalisation so that the actions have a personal importance (Ryan & Deci, 2000). This may explain the low efficacy of existing interventions if children see them as something they are prescribed rather than opportunities with personal significance and goals. Gillison, Standage and Skevington (2006) found that adolescents who perceived themselves as being overweight, and felt pressurised to lose weight, endorsed extrinsic weight-related goals which predicted decreased exercise participation. Conversely, those who held intrinsic weight-related goals participated in greater levels of exercise and had an increased quality of life. The authors suggested that there was a potential role for teachers and parents in helping young people develop self-determined attitudes towards weight-loss. Through being more autonomy

supportive and helping to create an environment where intrinsic weight-related goals can be developed, they believe that young people should be able to adopt and maintain behaviours that are more beneficial to their health. However, this does not seem to be a current consideration for most interventions.

Aims and Research Questions

From the literature there are two main areas that warrant further investigation. The first is to determine how teachers' perceptions of weight controllability impact on their perceived responsibility and desire to help overweight or obese children. Five main questions will be explored to investigate this aim:

1) How does the perceived controllability of weight influence helping behaviour in teachers?

> From previous research it is predicted that teachers will view weight as highly controllable. In addition, it is predicted that higher perceptions of weight controllability will be related to a decreased desire, and responsibility, to help.

2) Will information provided about the cause of obesity influence helping behaviours in teachers?

> It is predicted that information about the cause of weight gain from different perspectives will influence the desire, and perceived responsibility, to offer help.

3) Will the amount of effort a child exerts in the attempt to lose weight influence the helping behaviour of teachers?

It is predicted that a child who is seen to put more effort into losing weight will attract a greater desire and responsibility to help from teachers.

4) Will a child's weight status influence the helping behaviour of teachers?

Given the favourable view that is given to those of normal weight it is predicted that a child who achieves weight-loss will attract a greater desire and sense of responsibility to help.

5) To what extent will teachers feel able to provide help?

Teachers are generally in favour of school-based interventions (Neumark-Sztainer, Story & Harris, 1999). However, there has been no indication of whether teachers feel able to provide this support. This is therefore a factor that warrants investigation.

The second aim is to explore teachers' ideas about how interventions might be offered more effectively. To address this, teachers were asked two questions:

6) If an obese or overweight child was to experience difficulties at school how could they be helped to succeed?

7) What approaches or support may be beneficial to an overweight or obese child, excluding more traditional exercise and healthy eating weight-loss programmes?

Methods and Procedures

Participants

Participants were recruited from a United Kingdom (UK) university running a Post Graduate Certificate in Education (PGCE) course for primary school teachers. As part of the PGCE, trainees gain experience of working with children across the age range of primary education; 5-11 years.

Design and Materials

The study is a 2x2x2 mixed methodology questionnaire design. Quantitative data were collected for questions 1-5 and analysed for within- and between-group effects. Qualitative information was collected for questions 5-7 as these were more exploratory. All information was gathered through a 'questionnaire pack' which is described below (see appendix 'b'). There are four independent variables (IVs): perceived controllability of obesity; priming information on causes of obesity; effort exerted to lose weight; and weight status. The Dependent Variables (DVs) are participants' desire to help, and perceptions about responsibility to help.

Beliefs About Obese Persons (BAOP) Scale

The BAOP is an eight-item questionnaire assessing the perceived controllability of obesity. Each item is rated from -3= "I strongly disagree" to

+3="I strongly agree". Items 1, 3-6 and 8 are reverse scored, the scores are summed and 24 is added. Total scores therefore range from 0 to 48 with lower scores representing a belief that obesity is under individual control. Typical mean scores for post-graduate students and teachers are 20.8 (Allison, Basile & Yuker, 1991) and 14.0 (Neumark-Sztainer, D., Story, M. & Harris, 1999) respectively. The BAOP has internal consistency of .65-.82, although there are no test re-test reliability data (Yuker, Allison, & Faith, 1995). With regards to validity, the BAOP correlates well (.40-.45) with the Attitudes Towards Obese People scale (Allison et al.). BAOP score forms the first IV and addresses research question one.

Information Sheet About the Cause of Obesity

For research question two, the second IV was manipulated by priming participants about the cause of obesity using one of two different 'information sheets'; adapting Jeong's (2007) methodology. Both information sheets include statistical data about obesity prevalence in the UK. The two then differ according to whether the following information highlights wholly biological or environmental causes of obesity. Both information sheets include the same number of typed lines and referenced journal articles.

Vignettes

The third and fourth research questions were addressed using a vignette methodology as in similar, previous research (Bullock et al., 2011; Seacat, Hirschman & Mickelson, 2007). Participants were presented with one of four different vignettes presenting a scenario of a significantly overweight child in

their class being placed on a healthy eating and exercise programme. Each scenario was identical apart from the ending which varied according to whether the fictional child exerted effort or not in activities (third IV) and whether they were successful or unsuccessful in achieving weight-loss (fourth IV). A female character at the upper end of primary school was chosen because changes to self-esteem resulting from weight are greater in girls and become more profound with age (Strauss, 2000).

Questions

Likert scales were used to assess perceptions of responsibility and helping attitudes, as in previous research (Bullock et al., 2011; Iobst et al., 2009; Seacat et al., 2007). Three questions relate to helping behaviour; help with weight, help academically and help with other aspects of school life. Similarly, three questions relate to perceived responsibility: how much is weight the teacher's, child's or others' responsibility. All responses are rated from 1="Very little" to 5="A lot", forming the DVs. For research question five, participants rated the extent to which they thought their help would make a difference using a Likert scale. They then answered three 'yes/no' questions: is weight-loss important; would providing support be difficult; would further help be sought. Each 'yes/no' question included space for participants to further explain their answers. The final section consists of two open ended questions directly relating to research questions six and seven.

Questionnaire Packs

All questionnaire packs include an introduction to the study and questions about consent. This is followed by the BAOP, an 'information sheet', a vignette and the series of questions. Each participant therefore completed one of eight different questionnaire packs; see appendix 'c' for the different IV levels for each pack.

Procedure

Ethical approval for this study was granted by Coventry University Ethics Committee. The PGCE course director was emailed a description of the study and asked for permission to recruit trainees. Permission was granted to approach trainees at the beginning of a lecture at the end of the academic year. All packs stated that participation was voluntary and there would be no repercussions from abstaining; see appendix 'd'. Questionnaire packs were numbered and ordered so that no two people sitting next to each other would have the same version. Each pack included a consent form asking whether the data could be used and to ensure that participants understood that the study was voluntary (appendix 'e'). All questionnaires were completed within 15 minutes. Once the packs were returned, a debriefing sheet was made available; appendix 'f'.

Data Analysis

Quantitative data were analysed using Predictive Analytics Software (PASW) version 17. Qualitative data were analysed using a thematic content analysis according to the methodology of Braun and Clarke (2006); see appendix 'g'

for further information. A priori power testing using G*Power version 3 (Faul, Erdfelder, Buchner, & Lang, 2009) indicated that an estimated sample size of *n*=98 was required to achieve statistical power of .8 and an effect of .4.

Results

Quantitative Analysis

Participants

No demographic information was gathered. However, a visual inspection indicated that nearly all participants appeared to be Caucasian females in their 20s or 30s. At the time of completion all participants had completed a minimum of 18 weeks in a primary school on training; half of one full academic year. However, previous school-based experience was required to gain entry onto the course. Therefore, all participants had more than this level of total school experience.

Descriptive statistics

There was a response rate of 99.3%; 146 of 147 questionnaires. Table 1 indicates the number of returned questionnaires for each condition.

Table 1 *Number of questionnaires returned by condition*

Questionnaire Pack	Cause of obesity	Level of Effort	Weight Loss	Number Returned
1	Biological	High	Yes	20
2	Biological	High	No	19
3	Biological	Low	Yes	20
4	Biological	Low	No	18
5	Environmental	High	Yes	17
6	Environmental	High	No	18
7	Environmental	Low	Yes	17
8	Environmental	Low	No	17
			Total	**146**

Two people did not complete one item on the BAOP and so had no total score. Of the remaining 144 respondents, the mean BAOP score was 12.67 (*SD*=4.88, range=3-33) demonstrating an overall view that obesity was within individual control. Two, one-way, repeated measures analyses of variance (ANOVAs) were conducted: one for responses relating to helping behaviour; one for responses relating to responsibility to help. The mean score for each DV is presented in Table 2.

Table 2 *Mean scores for dependent variables (Standard deviations in brackets)*

	Score
Help Hannah with regards to her weight?	3.94 (.86)
Help Hannah academically?	4.81 (.46)
Help Hannah with other aspects of her school career?	4.54 (.68)
Is Hannah's weight her responsibility?	3.24 (.83)
Is Hannah's weight your responsibility?	2.50 (.88)
Is Hannah's weight the responsibility of others?	3.72 (.97)

There was a significant effect of helping behaviour, Wilks' Lambda=.45, $F(2, 143)=87.55$, $p<.001$, multivariate eta squared=.55. Post hoc *t*-tests revealed that participants wanted to help Hannah academically more than with other aspects of school, $t(145)=6.30$, $p<.001$, or than with her weight,

t(144)=13.04, *p*<.001. They also wanted to help Hannah with regards to other aspects of school more than with her weight, *t*(144)=9.00, *p*<.001. There was also a significant effect of responsibility to help, Wilks' Lambda=.47, *F*(2, 142)=80.74, *p*<.001, multivariate eta squared=.53. Post hoc *t*-tests revealed that trainees saw Hannah's weight as the responsibility of others more than Hannah's responsibility, *t*(144)=4.12, *p*<.001, or their responsibility, *t*(143)=12.32, *p*<.001. Additionally, they viewed Hannah's weight as her responsibility more than their responsibility, *t*(144)=7.32, *p*<.001.

Research Question 1

A correlation analysis was conducted for BAOP total score and each of the help and responsibility DVs. The statement, "to what extent is Hannah's weight the responsibility of others?", had a weak negative correlation with the BAOP, *r*=-.18, *p*<.05, suggesting that weight was more likely to be considered the responsibility of others when weight was seen as controllable. No other correlations with the BAOP reached significance.

Research Questions 2-4

As recommended by Pallant (2001) only the DVs that moderately correlated with each other were analysed by multivariate analysis of variance (MANOVA); this applied to the three DVs relating to helping behaviour. The other DVs had low correlations and were therefore analysed separately using ANOVA; see Table 3 for further information.

Table 3 *Correlation matrix for variables relating to helping behaviour*

		1	2	3	4	5	6
1	Help with weight	-					
2	Help academically	**.41****	-				
3	Help with other	**.48****	**.67****	-			
4	Hannah's responsibility	-.15	-.14	-.10	-		
5	Your responsibility	.43**	.24**	-.21*	-.06	-	
6	Other's responsibility	.07	.22**	.10	-.13	.19*	-

* $p<.05$, **$p<.01$

A three way between-groups MANOVA was conducted for the three IVs, information sheet, effort and weight status, and the three DVs relating to helping behaviour. Preliminary assumption testing noted no serious violations. Results of the MANOVA indicated no statistically significant differences between groups and no significant interactions; see Table 4. Appendix 'h' contains graphs showing interaction trends.

Table 4 *Results of MANOVA between three IVs and DVs relating to helping behaviour*

	df	*F*
Information Sheet	(3,135)	.51
Effort	(3,135)	.73
Weight status	(3,135)	1.17
Information sheet x effort	(3,135)	.54
Information sheet x weight status	(3,135)	1.30
Effort x weight status	(3,135)	1.86
Information sheet x effort x weight status	(3,135)	1.42

All results non-significant at $p<.05$, partial Eta squared<.05

Separate one-way ANOVAs were conducted to explore the effect of the IVs on each DV relating to responsibility; see Tables 5-7. One of the interactions, information sheet and weight status, reached significance at $p=.05$ for the variable "Hannah's weight is the responsibility of others". However, none of the other variables or interactions reached significance.

Table 5 *Results of ANOVA for 'Hannah's weight is her responsibility'*

	df	*F*
Information Sheet	(1,138)	.44
Effort	(1,138)	2.93
Weight status	(1,138)	.16
Information sheet x effort	(1,138)	.15
Information sheet x weight status	(1,138)	.00
Effort x weight status	(1,138)	.00
Information sheet x effort x weight status	(1,138)	.19

All results non-significant at $p<.05$, partial Eta squared<.05

Table 6 *Results of ANOVA for 'Hannah's weight is participant's responsibility'*

	df	*F*
Information Sheet	(1,137)	.57
Effort	(1,137)	.91
Weight status	(1,137)	.57
Information sheet x effort	(1,137)	.01
Information sheet x weight status	(1,137)	1.13
Effort x weight status	(1,137)	.01
Information sheet x effort x weight status	(1,137)	.59

All results non-significant at $p<.05$, partial Eta squared<.05

Table 7 *Results of ANOVA for 'Hannah's weight is the responsibility of others'*

	df	*F*
Information Sheet	(1,137)	.10
Effort	(1,137)	2.40
Weight status	(1,137)	.00
Information sheet x effort	(1,137)	.01
Information sheet x weight status	(1,137)	3.88^
Effort x weight status	(1,137)	.04
Information sheet x effort x weight status	(1,137)	.00

^$p=.05$

All other results non-significant at $p<.05$, partial Eta squared<.05

Research Question 5

Participants identified that they could make "some" difference through helping ($\bar{x}$=3.51, *SD*=.83). In total, 97% (*n*=142) of respondents believed that weight-loss would be important to school success, 91% (*n*=133) believed that helping would be difficult and 82% (*n*=119) felt they would seek further support to help.

Qualitative Analysis

For research questions 5-7 qualitative responses were collated and analysed as a whole data set because there was a significant overlap across answers. This allowed for a more meaningful and less repetitive analysis. Responses were grouped into three overarching themes: the need for holistic well-being; facilitating successful change; and barriers to change. See figure 4 for a thematic map.

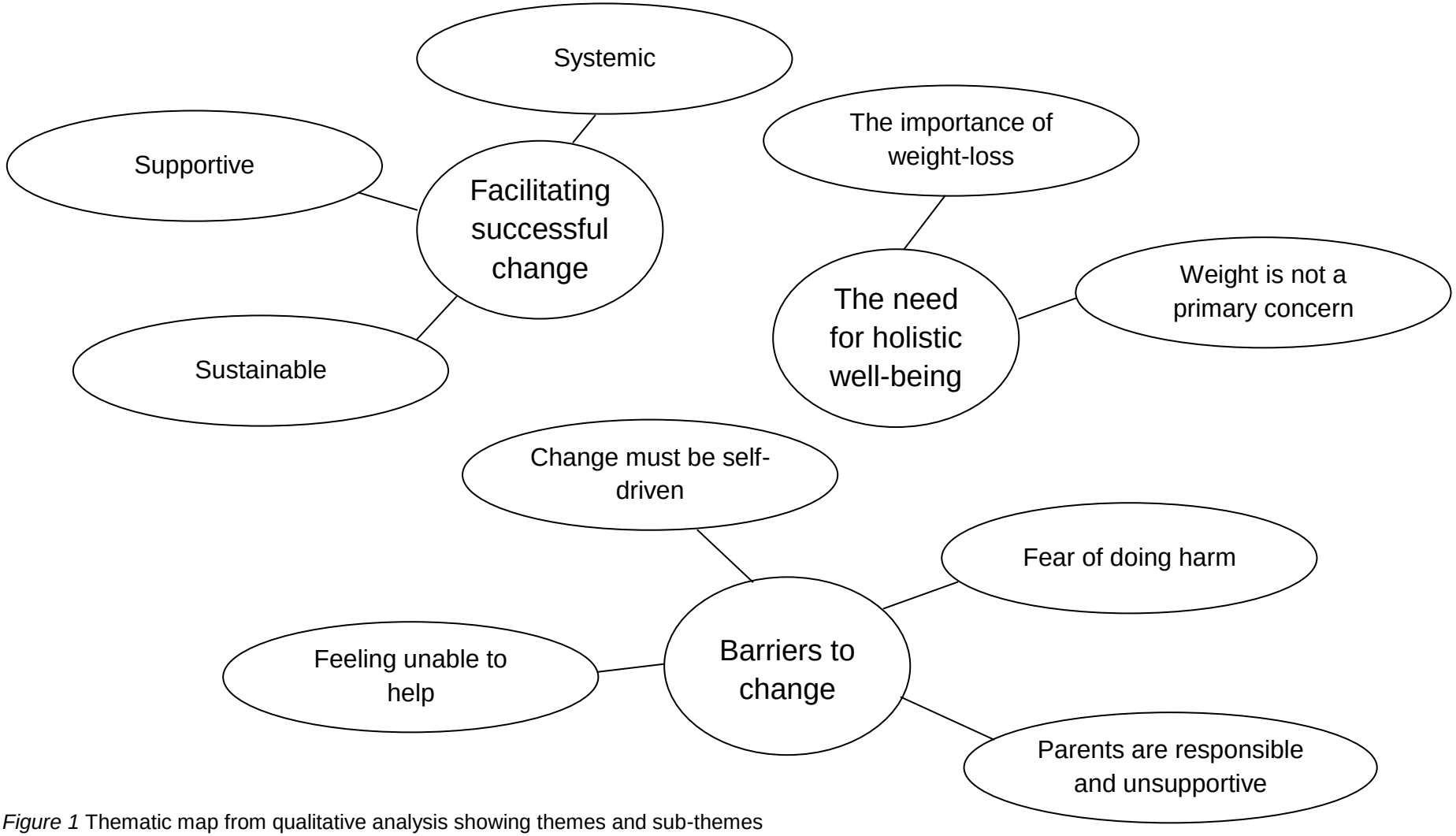

Figure 1 Thematic map from qualitative analysis showing themes and sub-themes

The Need for Holistic Well-Being

Holistic well-being was conceptualised as responses that related to psychological, physical, social and academic well-being. Respondents spoke about the need for the whole of Hannah to be healthy as this was seen as the key to school achievement: *"She would feel happier in herself and with higher self-esteem her other areas of her school life will improve" (id233)*. Some participants indicated that through losing weight Hannah would be physically more able to access activities that would consequently benefit her: *"It's easier to be active if you are not over-weight, and being fit and active helps your brain and your self-esteem" (id251)*. Some highlighted that weight-loss might make her more acceptable to her peers: *"I believe [weight-loss] would aid her self-esteem and improve her social standing. She will be proud of her achievements and this could transfer into other areas of study" (id245)*. Whereas others pointed out direct psychological and physiological benefits that they believed would occur from weight-loss: *"[Weight-loss] would increase her confidence and eliminate some of the affects of obesity that may affect academic performance e.g. tiredness" (id167)*. These comments were considered to fall under the sub-theme 'the importance of weight-loss', suggesting that weight-loss would directly correspond to improved holistic well-being.

Another sub-theme was 'weight is not a primary concern'. This sub-theme also pointed to the importance of holistic well-being but focused on helping other aspects of well-being rather than weight: *"Increase her confidence and self-esteem. Don't make her weight too much of an issue for her" (id256)*.

The differences between these two sub-themes reflects the debate over whether obesity can be thought of as a cause or risk indicator for psychological and social difficulties at school (Datar, et al., 2004; Ding & Bornhop, 2005; Schore et al., 2008); *"weight problem could be related to something more serious that needs to be addressed." (id253)*. Under this sub-theme respondents believed Hannah should primarily be helped to find ways of succeeding in activities as a way of building self-esteem: *"Opportunities to increase self-esteem, to develop areas of interest, hobbies to pursue. Areas of school like she can feel a success at." (id225)*. Others spoke about promoting a more general atmosphere of acceptance, both as a way of enhancing interpersonal well-being: *"Give SEAL [Social and Emotional Aspects of Learning] lessons about acceptance and identify successful role models in a variety of shapes and sizes" (id255)*; and intrapersonal well-being: *"Teach children to value themselves, like themselves" (id177)*.

Facilitating Successful Change

Participants' ideas about how help should be provided at school were grouped into three sub-themes. The first was that children of above normal weight need interventions that are 'systemic'; specifically, interventions that involve the child, parents, teachers, peer group and specialist healthcare services:

"It is the responsibility of the parents, support staff and the whole community as well as the teacher to support pupils like Hannah" (id148)

"I feel it is the responsibility of the school, teacher, parents and child to work together in partnership with weight issues in children and not to make the child feel that their weight is the most important thing to focus on" (id287)

"Support from parents and family and health organisations" (id221)

This reflects the complexity of contributing factors that is likely to exist when considering the causes of weight gain (Jebb, 1997). The second sub-theme was that interventions should be offered in an environment that is 'supportive' of change: *"Collaboration with parents/support buddies among her friends/special diet and training programme" (id213)*. Lots of responses indicated that they would *"support"* and *"encourage"* Hannah. Additionally, comments indicated that thought should be given to individual preferences rather than prescribing particular activities: *"Finding sports activities she enjoys rather than forcing participation in all areas" (id287)*. The third sub-theme was that any change needs to be 'sustainable' in the long-term rather than a focus on quick weight-loss: *"[Support is needed] As a means of her sustaining a healthy lifestyle for the future" (id152)*. *"Taking little steps rather than big steps might be easier" (id167).*

Barriers to Change

A final theme related to difficulties that participants foresaw in help being offered. Many identified a desire to help: *"...[I] would not want her to suffer alone" (id103)*; but either did not know how: *"Because as a teacher I am not a health expert and wouldn't be able to advise (without support) in this way" (id148)*; or did not feel they could; *"There is only so much a teacher can do, if it wasn't working and she wanted to continue losing the weight, other support may be needed" (id262)*. These comments were grouped under the sub-theme 'feeling unable to help'. A second sub-theme indicated participants' 'fear of doing harm'. This related to a fear of causing *"conflict with parents" (id114)* or that in trying to help they may accidentally cause psychological harm; *"[I would find it difficult] Being honest about her weight problem without causing an eating disorder" (id183)*; *"[I would find] her vulnerable emotional state [difficult]" (id281)*. Other responses identified that 'change must be self-driven':

> *"She needs to help herself also, and this is not in my control" (id154)*
>
> *"Give her more control over her own diet and exercise programme" (id272)*
>
> *"Helping Hannah to come up with her own goals so she feels in control over what she is doing, so hopefully she would feel more motivated" (id262)*
>
> *"[It will be difficult] If she is not wanting to help herself and cooperate and make the effort" (id138)*

These ideas perhaps relate to those of self-determination theory (Ryan & Deci, 2000). However, in contrast to this was a commonly occurring sub-theme that Hannah's 'parents are responsible and unsupportive'; *"It is very hard as a teacher to influence home life - her parents still have overall responsibility" (id113)*. This attribution of parental responsibility was contrary to expectations using Weiner's (1980; 1986) theory of helping behaviour. Instead, the anger and reprimand that was anticipated towards Hannah was implied towards her parents who were frequently seen as unsupportive or even guilty of *"neglect"*:

> *"If her family is not as supportive it will be difficult to support Hannah, no matter what she thinks" (id236)*
>
> *"This is the parents' responsibility not the teachers" (id293)*
>
> *"Ultimately the responsibility lies with the parents. If the parents don't see a problem then what can you do" (id277).*

Discussion

Summary of Findings

As with previous research, the results indicate that weight is predominantly seen as being environmentally determined. However, the mean score on the BAOP was low even in comparison to previous groups of teachers. The overall desire to help was high, although there were significant differences between the types of help participants were prepared to offer. Perhaps unsurprisingly help with academic work was rated highest. Nevertheless, there was still a strong desire to help with weight even though it was the

lowest of the three helping behaviours. There was a significant difference between the perceptions of responsibility that respondents had, with the responsibility of others being rated greater than Hannah's responsibility or participants' responsibility. This parallels research into challenging behaviour where parents are rated as having the greatest responsibility followed by children, then teachers (Mavropoulou & Padeliadu, 2002). The pattern of responsibility attributions may explain the lack of relationship between controllability beliefs and helping behaviour that was observed, which is contrary to Weiner's model. It may be that whilst weight is seen as controllable it is not regarded as within the child's control, therefore accounting for the lack of an effect. The inclusion of an information sheet to prime participants did not influence helping behaviour or responsibility ratings. This was against predictions but in line with the findings of Jeong (2007). Similarly, there was no effect of manipulating the level of effort and weight status of the child in the vignette on the DVs. It may be for these hypotheses that the lack of effect can again be explained, in part, by the perception that a child's weight is the parents' responsibility, making other variables comparably unimportant.

Overall, participants identified that they would be able to make 'some' difference by helping, although high numbers also recognised that they may find some part of this difficult. This limit to perceived effectiveness perhaps relates to the qualitative themes that the 'parents are responsible and unsupportive', participants feel 'unable to provide help', and have a 'fear of doing harm'. The high number of responses indicating that additional support

would be sought may link to the perceived need for successful interventions to be systemic. It therefore appeared that participants wanted to help but felt that they would need coordinated support from all agencies for this to be effective. An additional consideration was the need for the 'whole' child to be looked after. Interestingly, there was an almost unanimous perception that the child described would need to lose weight to succeed at school. However, differences arose in whether her holistic well-being was viewed as a cause or a consequence of weight-loss. This was expressed by opposing stances over whether more conventional approaches to weight-loss, or adopting a non-judgemental attitude to weight, would be more beneficial. The latter suggested a focus on promoting self-efficacy and self-acceptance; an approach that may fit with a mindfulness-based framework, which has only recently been explored with obese individuals and is yet to be studied fully with children. However, both stances were subject to a common theme - that of self-determinism holding the key to long-term success. Therefore, it appeared that participants believed long-term success and well-being would be more likely when a child is helped to pursue changes that they desire, within a supportive environment, which involves the system around them and has achievable aims.

Clinical Implications

The present research has implications for clinical practice relating to intervention. It seems that trainee teachers are interested in helping children with their weight but feel they lack the knowledge and skills to provide this support. This highlights the important role that healthcare professionals could

play in offering consultation to teachers as well as coordinating the input of all agencies involved in a child's care. This could include providing a holistic understanding, or formulation, of the individual factors that are contributing towards a child's weight where significant difficulties are experienced. The formulation could then be used to guide individually tailored interventions that take into account the child's ideas. It also raises potential questions about the approach that has been adopted to date: if weight-loss programmes are to be offered, are they something that the child wants to pursue and do they involve the system around the child in a way that is supportive to long-term outcomes?

An additional role that is highlighted is the need to provide training. It would appear that brief information being given, as in the present research and that by Jeong (2007), is not sufficient to change attitudes. However, other research has identified that detailed training programmes can influence attitudes towards obese children (e.g. Hague & White, 2005). It may be that training would need to include information on the role of parents in weight gain alongside other contributing factors. The themes suggested a lot of blame and anger towards parents, which could lead to a dynamic whereby parents are viewed as 'abusers' and children as 'victims' rather than all parties working towards a shared goal of the child's well-being. Any training that is offered could also address the fear of doing harm. By providing teachers with information about obesity their confidence in offering low-level supportive interventions may increase which could enable children to access

sufficient help from their teacher without the need for specialist interventions later on.

Limitations

The approach to data collection was highly beneficial in terms of response rate and gathering large participant numbers. It should equally be acknowledged, however, that one limitation may have been the proximity participants had to their peers when responding. This could have created a social desirability bias to answers. An additional limitation was the use of trainee teachers rather than qualified staff. Whilst trainees are the next generation of teachers, it may be that attitudes change with greater experience in schools. A further consideration was the sample size. Whilst participant numbers were sufficient to exceed that estimated by a priori power testing, the achieved power in some of the analyses was still low. Having recruited more participants could potentially have influenced the outcomes; a factor which may have changed whether some of the analyses reached significance.

The methodology of the study had other limitations that should be acknowledged. First was the use of a vignette, which can be criticised for not necessarily tapping into real life processes (Hughes & Huby, 2002). This approach can be useful when there are practical and ethical considerations. For example, it would not have been appropriate to present a real child to participants, and some of the research questions were exploratory. However, it may be that the vignette was not sufficiently salient to capture a true

reflection of participant's likely helping behaviour. Thought should be given to adapting the methodology in future research to maximise the chance of capturing real-life processes. A further consideration is the procedure adopted in thematic analysis. Braun and Clarke (2006) state that the position of the researcher should be made explicit as this inevitably influences the interpretation of responses; this will be discussed further in the reflective paper. Nevertheless, this approach was deemed the most appropriate way of developing ideas about what may constitute important considerations for interventions within school. The ideas themselves can be empirically scrutinised through further research.

Conclusion

Interventions to help obese and overweight children do not currently seem effective in providing long-term outcomes. This study provides preliminary evidence to suggest that teachers of primary aged children are willing to provide help but need support from the wider system to be effective. Healthcare agencies have an important role in training and coordinating care as there is currently a risk that parents may be seen as an unhelpful barrier to success. This tension may potentially have a negative effect and is therefore an essential consideration of any intervention. Future research should attempt to find ways of accessing more 'real-life' processes. Further studies should also investigate the helping attitudes of more experienced teachers and whether the child's age impacts on helping behaviour. For example, it could be predicted that as children get older attributions of responsibility change from parents to child. Exploring whether the same

attitudes to help are observed at secondary school may therefore provide an interesting comparison. Similarly, exploring the helping attitudes of parents with regards to weight may provide additional information of interest. In summary, whilst a child's weight is not regarded by trainee teachers as their responsibility, there is good evidence to suggest that schools and teachers have an important role in an overweight or obese child's well-being. By incorporating this into interventions successful outcomes may be more likely and more sustainable in the long-term.

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Reflections on Interventions for Childhood Obesity

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Summary

This paper offers some reflections from the completion of my thesis about the stigma that still exists towards obesity, and how current approaches do not appear to consider the full complexity of potential contributing factors when offering interventions to children.

Introduction

The primary interest of my thesis was the way that interventions are offered to people that are overweight and obese. Through the course of my research I encountered a number of occasions where the issue of childhood obesity in particular arose in the media, personally and professionally. I found that people's reactions to this topic varied but were often surprisingly opinionated. Globally, obesity is an issue that has captured much attention but it also seems to be surrounded by high levels of systemic anxiety. There appears to be a fear of an uncontrollable epidemic that people try to distance themselves from by providing the simple solution of 'eat less and do more'. Yet this attitude has been adopted through various different interventions for some time and there is still little evidence to demonstrate that it is effective. There seem to be frantic efforts to identify 'a cause' which might lead to 'a treatment'. However, this predominant one-dimensional attitude misses the complexity of causal factors that are likely to exist and fails to consider each person as an individual. This paper offers some of my reflections on the current attitudes to childhood obesity that I have become aware of through personal, professional and academic experiences during my research.

Identifying 'The Problem'

On February 19th 2010, the British Broadcasting Corporation (BBC) reported that the parents of a 'sporty' five year old girl had been told by her local National Health Service (NHS) trust that she was at risk of cancer and heart disease because she was 1% outside the healthy weight range for her height (BBC, 2010). There was bemusement from the mother of the child as she considered her daughter to be very active and healthy for her age. Nevertheless, the NHS trust that had sent the letter argued that it was necessary to inform parents that their child's weight could lead to significant problems in later life. It also stated that the parents were the only ones who could change lifestyle factors related to eating and exercise. This approach appeared to be very blaming and had the potential to result in a powerful emotional response in parents which could lead to behavioural changes (such as food restriction) that would not necessarily be helpful. In addition, there appeared to be a lack of support or assistance being offered once 'the problem' had been identified. From this point forward I became increasingly aware of the frequency and negative tone of items in the media relating to obesity in adults and children. These ranged from a high volume of documentaries that aimed to address the causes of obesity, or demonstrate pioneering treatments, to 'pop-television' dieting programmes. Throughout, there were many stigmatising attitudes and an underlying suggestion that however things are dressed up, everything ultimately boils down to eating too much and not doing enough exercise.

It was the initial BBC report that stimulated my interest in an area that then became the focus for my thesis. In particular, how the approaches and attitudes taken to obesity may impact on a child's well-being at school given the importance placed on weight. Coming from a family of teachers, I spoke about this with my relatives. They described how the routine measurement of children between the ages of 4-5 and 10-11 was something that could provoke high levels of anxiety in school children, particularly the older girls. However, it did not take much digging to discover the wider impact of this approach. Discussions about the problems with weight screening arose spontaneously when talking informally with people at work about my research. I was told by colleagues that were parents how they too had received a letter from school about their child's weight. In one instance, the letters to be taken home had been handed out to overweight or obese children in the classroom. This therefore identified to everyone in the class who were the ones with 'the problem'. Interestingly, the accompanying response to telling me about getting a letter was to recount stories about how healthy, active and properly fed their child was as if to avert the social shame of having admitted to receiving a letter. Professionally, I encountered surprising reactions to childhood weight. Colleagues sometimes made stigmatising comments about overweight children, and judgements were made about obesity being a problem in the parent-child dynamic that could be resolved through diet and exercise. I also had an experience, when meeting with a group of paediatricians for an unrelated reason, when my interest in childhood obesity was made known. I was subsequently

questioned desperately to discover the ‘silver bullet’ to cure ‘the problem’, which I inevitably could not provide.

From all of these experiences it struck me that the whole topic area was one that was highly emotionally laden and one that people had limited confidence in their ability to provide answers about. However, because of the shame that seemed inexorably linked with being overweight, others were quick to shift the blame or responsibility to someone or somewhere else whilst simultaneously asserting how easy it was to lose weight. Meanwhile, there seemed to be the potential for a child to become lost in the middle of all of this, with increasing emotional pressures surrounding them and possibly being put on them. All this within a context where there were no services or agencies to provide help and no indication of whether the overweight child regarded there to be a problem. It felt as though there was something about the current approach to childhood obesity that was lacking and unhelpful.

The Current Approach

The further I delved into the academic literature relating to obesity, the more I encountered similar problems and difficulties. There seemed to be several limitations with the current approach to obesity, and specifically childhood obesity. The whole idea of having a nationwide weight measuring programme in schools is one that can be controversial. Many authors point to the value of this information for monitoring the prevalence of obesity and as a way of evaluating the efficacy of efforts to tackle the weight epidemic. However, whilst this information is useful to have when it comes to planning

and policy decisions on a national level, there is no evidence to suggest that using this information to screen for obesity in children on an individual level is actually beneficial (Westwood et al., 2007). Instead, using weight monitoring for obesity screening purposes could result in stigma from raised peer group awareness; for example, when letters are given out in a classroom. As there are no suitable interventions available once a weight problem has been identified there seems to be limited justification for this approach as the potential benefits from having this information do not appear to outweigh the potential harm (Westwood et al., 2007).

Aside from the argument as to whether weight screening programmes are the right approach to take or not, there are other possible problems with the current method; specifically the measure used to identify someone as overweight or obese. Body Mass Index (BMI) is calculated by dividing weight in kilograms by height in metres squared which provides a standardised score. This figure can then be used to ascertain whether an individual's weight is within the normal range for their height or not. This is a relatively quick and easy measure to use which makes it popular amongst healthcare professionals. It is also used as the means of identifying eligible participants for intervention programmes in obesity research, including research into childhood obesity. However, despite being highly correlated with other measures such as body fat mass, BMI as a measure is unable to distinguish any body composition factors for an individual (Wells, 2001). Therefore, whilst in general it is likely that this measure will be highly useful in many cases, there is also a risk that it will not always reliably identify people at risk

of health complications associated with weight. One often quoted example of this unreliability is that by using BMI the whole of the England rugby team are obese. However, it seems unlikely that they are at immediate threat from problems with their health.

Another consideration is the language that is used when talking about people of above normal weight. ‘Obese’ and ‘overweight’ are used as diagnostic labels similar to disease or disorder categories. In academic literature people are referred to as ‘having’ overweight in the same way that someone might be referred to as having flu. Given the attitude that exists whereby obesity is seen to be cured by simply eating less and exercising more, this terminology is suggestive that ‘obesity’ and ‘overweight’ are comparable to a disease but one that is being chosen through lifestyle. This is not to say that lifestyle factors do not play a part in the aetiology of obesity. However, obesity appears to be generally regarded as a very physical and behaviourally-based problem, with a lack of consideration being given to psychological factors. This is also not to say that obesity should be thought of as a mental health problem either; although it was almost included in the Diagnostic and Statistics Manual 5th edition (DSM-V) because of a number of psychiatric co-morbidities that are commonly associated with it (Marcus & Wildes, 2009). Nevertheless, it seems likely that in order for interventions to be successful there needs to be an alternative approach to that already taken and this should include the mental well-being of individuals that are obese.

An Alternative Approach

The sum of these personal, professional and academic experiences indicates the highly stigmatising attitudes that still exist. It also seems that despite high levels of research interest and money being invested in finding alternative approaches, interventions are still moving in the same general direction and coming to the same limited long-term outcomes. This made me wonder why it was that everything and everyone seemed so stuck. What approach might represent a true alternative for children and families?

The current operating model in most areas is that an individual therapist who has contact with a child and family (e.g. for an Attention-Deficit/Hyperactivity Disorder assessment) is responsible for choosing whether to include issues of obesity as part of the assessment (Walker and Hill, 2009). As my experiences through placements indicated, this approach is unlikely to yield consistent results given the different views that people have towards obesity. It also relies on services actually being available to provide input following a need being identified. There is therefore a good chance that children that are overweight or obese will not even be identified as being in need of help and support, and certainly not until their weight is a significant issue. Walker and Hill describe a contrasting model whereby obese children could be helped through Child and Adolescent Mental Health Services (CAMHS). The suggested approach is multidisciplinary and operates across health services from GPs and school nurses at Tier 1 to specialist CAMHS at Tier 3. Key to this approach is that the child and family are involved in goal setting and that weight-loss is not necessarily the primary focus. As stated by Walker and Hill (p.118) “The psychological heterogeneity of obese persons suggests the one

size fits all approach is unlikely to yield wide-spread benefit". It is for this reason that CAMHS may be an appropriate service to offer support as it specialises in person-centred approaches, systemic ways of working and individualised formulation and treatment plans. Also of importance is that this approach offers different levels of intervention at different stages to children and families, from Tier 1 to Tier 3. In each case, any point at which weight is identified as potentially being problematic, the opportunity for intervention becomes available in a way that is driven by the child and their family. The fact that the intervention is self-determined and self-driven should consequently increase the likelihood of it being successful.

The predominant attitude of exercise and dietary restrictions to lose weight as a one-size fits all approach feels like a gross oversimplification of the needs of overweight or obese children. It seems that if people are not willing to adopt this more traditional approach then they are often considered as being obstructive or beyond help. However, the ideas suggested by Walker and Hill (2009) are not new principles, they just utilise the skills and systems that are in place to deal with other complex difficulties experienced by children and families. Given the growing acceptance of the multi-factorial nature of many difficulties, it is surprising that this model from which to work with obese children should appear so unique. A recent paper by the Obesity Working Group of the British Psychological Society (2011) outlines a cross-disciplinary psychological perspective on ways of addressing some of the shortcomings of current approaches to obesity. Within this, some of the suggested considerations for interventions for obese children are that: the

psychosocial causes and effects of obesity are not clear cut and therefore interventions need to be tailor-made; intrinsic motivation to make lifestyle changes is important to long-term maintenance; it is important not to encourage an unhealthy preoccupation with weight; and the involvement of children, parents and carers is key to the success of interventions (Cullen, 2011). Perhaps psychologists may therefore have an important role in developing and promoting the implementation of some of these ideas to introduce more effective ways of offering interventions.

Conclusion

Through my research I was encouraged to find that there were many people that were identifying the importance of considering the wider holistic needs of obese children, specifically within a school setting. It also appeared that there was an appreciation of the benefits of working systemically and providing interventions that are truly-person centred. However, these same factors do not seem to be being translated to services that are offered, if any services are available in the first place. There also seems to be a preoccupation that weight-loss should be the main starting focus of intervention whereas this may not be the primary goal for each individual. It has to be said that one of the limitations of my research is that I did not explore the attitudes towards help of obese children themselves, their parents and their carers. Perhaps I too am therefore guilty of making assumptions about how interventions should be offered. Nevertheless, I think it is unlikely that many people would be offended at the suggestion that they should be asked what they would like to achieve. Multidisciplinary services,

such as CAMHS, and professionals who have the ability to develop broad and collaborative formulations, such as psychologists, are surely in a good place to offer interventions for a complex problem like obesity. Investing in services that can provide person-centred help at an earlier stage may therefore provide better outcomes for individuals. Perhaps through recognising this complexity of contributing factors, the stigma that exists towards obese children may also gradually erode.

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Appendix 'a' – Psychometric Measures Used by Outcome Being Addressed by Studies Included in Literature Review

Outcome	Abbreviation	Number of times used
Psychological Distress		
Beck Depression Inventory	BDI	5
Beck Anxiety Inventory	BAI	2
Perceived Stress Scale	PSS	2
State-Trait Anxiety Inventory	STAI	2
Difficulties in Emotion Regulation Scale	DERS	1
General Health Questionnaire	GHQ	1
Positive and Negative Affect Scale	PANAS	1
Scales of Psychological Well-being	SPWB	1
Symptom Checklist 90 - Revised	SC90-R	1
Weight Related Stigma Questionnaire	WSQ	1
Wheaton Chronic Stress Inventory	WCSI	1
Eating Behaviour		
Binge Eating Scale	BES	5
Dutch Eating Behaviour Questionnaire	DEBQ	3
Eating Disorder Questionnaire	EDQ	2
Three Factor Eating Questionnaire	TFEQ	2
Eating Behaviour Inventory	EBI	1
Emotional Eating Questionnaire	EEQ	1
Emotional Eating Scale	EES	1
Eating Expectancy Inventory	EEI	1
Eating Self-Efficacy Scale	ESES	1
Questionnaire of Eating and Weight Patterns - Revised	QEWP-R	1
Mindfulness and Acceptance		
Kentucky Inventory of Mindfulness Skills	KIMS	3
Acceptance and Action Questionnaire	AAQ	2
Food-related Acceptance and Action Questionnaire	FAAQ	1
Mindfulness Awareness Attention Scale	MAAS	1
Philadelphia Mindfulness Scale	PHLMS	1

Appendix 'b' – Example Questionnaire Pack

Identification number ……

Beliefs About Obese Persons Scale (BAOP)

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Write a +1, +2, +3, or -1, -2, -3, according to the scale below.

+3 = I strongly agree
+2 = I moderately agree
+1 = I slightly agree
–1 = I slightly disagree
–2 = I moderately disagree
–3 = I strongly disagree

____ Obesity often occurs when eating is used as a form of compensation for lack of love or attention.

____ In many cases, obesity is the result of a biological disorder.

____ Obesity is usually caused by overeating.

____ Most obese people cause their problem by not getting enough exercise.

____ Most obese people eat more than nonobese people.

____ The majority of obese people have poor eating habits that lead to their obesity.

____ Obesity is rarely caused by a lack of willpower.

____ People can be addicted to food, just as others are addicted to drugs, and these people usually become obese.

Identification number ……

The Biological Basis of Obesity

Please read the information below on weight gain.

A study conducted by The NHS Information Centre for Health and Social Care (2010) found that in England in 2008, 28% of boys under 16 and 27% of girls under 16 were either obese or overweight. Across the population it was found that eight times as many people were diagnosed as being obese in comparison to ten years before.

There is good evidence to suggest that genetic influences rather than childhood environment have a substantial impact on body mass index (e.g. Stunkard, Harris, Pederson and McClearn, 1990). One hormone in particular, leptin, has been discovered as a key physiological agent that operates on nerve cells in the brain and is involved in the regulation of food intake and body weight (Friedman, 2000).

Some people have a deficiency in the leptin hormone and these individuals are genetically more likely to be obese (Montague et al., 1997). Additional biological factors, such as metabolism, have also been found to play an important role in how easily weight is gained (Ravussin, 1995).

Identification number ……

Scenario

The scenario below is about a child at the top of Key Stage 2. Please read the text and then answer the questions below based on your thoughts and reactions regarding what you have read.

> Hannah has been in your class for three months now. At the beginning of the year she participated in a weighing programme being run by the local health authority. The result of this identified Hannah as being significantly overweight for her age. As a result she was placed on an after school activity programme and she participated in the school healthy eating programme along with the other children in the class. Hannah made a real effort to engage in the school healthy eating programme and is reported to have participated well in the after school activities. When Hannah was weighed again recently she had lost a lot of weight and is now within the normal range for her age.

Questions

	Very little		Some		A lot
	1	2	3	4	5
How much do you want to help Hannah with regards to her weight?					
How much do you want to help Hannah with her academic work?					
How much do you want to help Hannah with other aspects of her school career?					
To what extent is Hannah's weight her responsibility?					
To what extent is Hannah's weight your responsibility?					
To what extent is Hannah's weight the responsibility of others?					
How much of a difference could you make through helping Hannah?					

Identification number ……

	Yes	No
1) Do you think that losing weight would be important to Hannah's success at school? Why? …… ……	☐	☐
2) Would you find any aspect of helping Hannah difficult? What? …… ……	☐	☐
3) Would you feel the need to seek further support for Hannah regarding her weight? Why? …… ……	☐	☐

If Hannah was to experience difficulties at school because of her weight, in what ways do you think she could be helped to succeed?

……
……
……
……

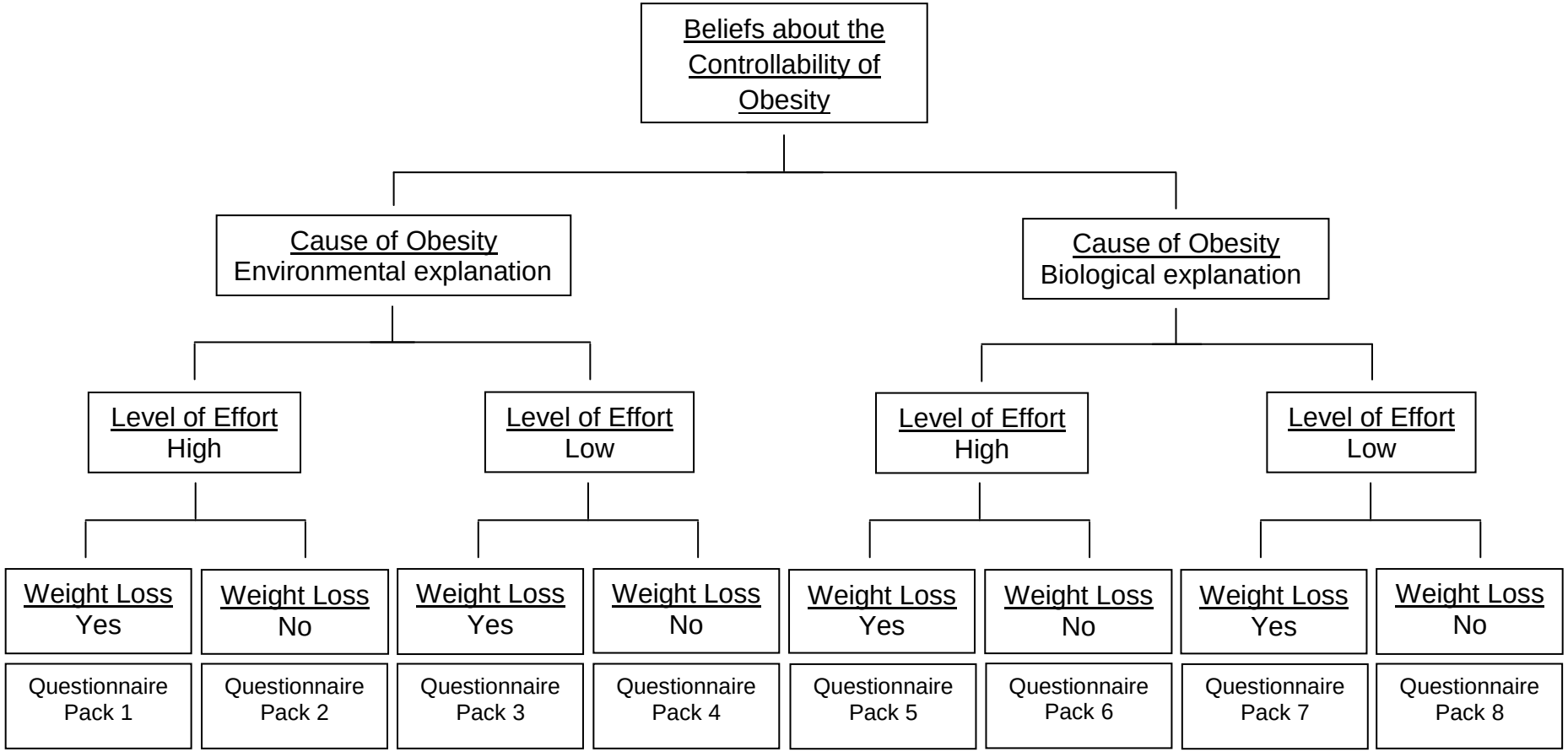
What approaches or support can you think of that might help Hannah to feel able to develop her own weight-related goals, excluding healthy eating and exercise programmes?

……
……
……
……

Are there any other comments that you would like to make?

……
……
……
……

Appendix 'c' – Different IV Levels for each Questionnaire Pack



Appendix 'd' – Participant Information Sheet given Prior to Participation

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Fax 024 7688 8702

Programme Director
Doctorate Course in Clinical Psychology
Dr Eve Knight
BSc Clin.Psy.D. CPsychol

THE UNIVERSITY OF WARWICK

Coventry University

Identification number ...24.... Participant information sheet

Perceptions of controllability and the impact on helping behaviour in obesity

What is the aim of this study?
The aim of this study is to explore teachers' thoughts about overweight and obese children and to pull together ideas about how young people may be engaged in a way that supports them to maintain an average weight.

Do I have to take part?
No. Participation in this study is completely voluntary and no reasons need to be provided should you not wish to participate. If you decide to take part and wish to withdraw your responses at a later date you may do so at any point up to the end of January 2012 when the study will be written up. If you withdraw, all of your data will be destroyed and will not be used in the study. To withdraw your data please email the above identification number to the address given below. There will be no negative consequences of not participating or later withdrawing your data.

What do I need to do if I decide to take part?
You will be presented with a questionnaire, some information about the basis of weight gain, a brief scenario and a few questions. Please complete or read through each page in turn, without skipping ahead, and please answer all questions as fully and honestly as possible. It should take around 10 minutes to complete.

Will my information be kept confidential?
Yes. All responses are anonymous and you are not required to provide any personal information such as your name on the questionnaires. None of your responses will be linked to you as an individual. All returned questionnaires will be stored securely for 5 years before being destroyed.

Are there any disadvantages to taking part?
No part of this study is designed to be upsetting or distressing. If, however, through completing the questionnaires difficult issues are raised that you would like to talk about with someone, please contact your GP or the university counselling service.

Are there any advantages to taking part?
By participating in this study you will be contributing towards the understanding of how overweight and obese children may be better helped in the school environment. You can read more information about the study in the debriefing sheet once you have finished the questions. If you have any questions about the study or you would like to request a summary of the findings once they have been written up, please feel free to contact the researcher.

Dean of Faculty of Health and Life Sciences
Dr Linda Merriman Mphil PhD DpodM CertEd Coventry University Priory Street Coventry CV1 5FB Tel 024 7679 5805

Chair of Department of Psychology
Professor Liz Robinson BSc PhD University of Warwick Coventry CV4 7AL Tel 024 7652 3096

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What will happen with the results?
The results will be written up as part of my final year doctoral thesis and may be published or presented at conferences.

Who has organised the research?
The research has been organised by Ben Holmes, a student on the Coventry and Warwick Doctorate in Clinical Psychology.

Who can I contact if I have any further questions or concerns?

Researcher
Ben Holmes
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Coventry University
Priory Street
Coventry
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holmesb@uni.coventry.ac.uk

Supervisor
Jacky Knibbs
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Thank you again for your time.

Appendix ‘e’ – Participant Consent Form

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Coventry University

Consent Form

This consent form will be detached from your responses and stored separately so that there will be no information linking you with the answers you have provided.

Please tick the boxes, and sign below, to confirm that you are happy to participate.

I agree that I have read and understood the information sheet ☐

I understand that participation is voluntary and I still have the right to withdraw my data without giving any reasons ☐

I agree to take part in this research project. ☐

Signed .....

Dean of Faculty of Health and Life Sciences
Dr Linda Merriman Mphil PhD DpodM CertEd Coventry University Priory Street Coventry CV1 5FB Tel 024 7679 5805

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Appendix 'f' – Participant Debriefing Sheet given Following Participation

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THE UNIVERSITY OF WARWICK

Coventry University

Participant Debriefing Sheet

Thank you for participating in this research project.

The project had two main aims.

To investigate the relationship between perceptions about the causes of weight gain and an individual's perceived role and desire to help.

To try and identify any ideas about how interventions may be more effectively delivered to support obese and overweight children in managing their weight.

Research has linked being overweight in childhood to greater academic, social and/or emotional difficulties at school. There is some debate over the cause of this link. Nevertheless, it has been suggested that being overweight acts as a risk indicator for difficulties that make adjustment to school life hard. Current strategies to help overweight children lose weight are, at best, only moderately effective in the short-term and using motivation theories it could be argued that this is because current approaches do not have a sense of personal importance for the child. It was felt that teachers and trainee teachers would be well placed to explore these ideas given the relevance to a child's school career. It was hoped that through collating the ideas of a group of teaching staff that some different strategies could be identified to help support obese and overweight children in school.

The questionnaires you completed explored whether beliefs about the controllability of obesity are linked to helping behaviour. Models of helping behaviour predict that people are more likely to want to help others when a situation is seen as uncontrollable (e.g. genetic cause of obesity) than controllable (e.g. lifestyle factors). You will have completed one of eight different conditions. Half provided a biological explanation, and half provided an environmental explanation, for the cause of obesity – both of which are contrasting but accepted arguments. Additionally, each differed in the information you were given about the child in the scenario. The aim was to see what impact, if any, there was on your desire to offer help.

If you have any further questions about this study, would like to request a summary of the results or wish to withdraw your data, please feel free to contact me on:

holmesb@uni.coventry.ac.uk

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Appendix ‘g’ - Methodological Phases Involved in Thematic Analysis

Phase	Description of the process
Familiarise yourself with the data	Transcribe data and note initial ideas
Generate initial codes	Systematically code and collate interesting features
Search for themes	Collate codes into potential themes
Review themes	Generate a thematic map, revising and renaming themes as appropriate
Name themes	Refine the specifics of each theme and generate final theme names
Produce the report	Report the analysis and select vivid, compelling, extracts relating to the original questions and literature

Adapted from Braun & Clarke (2006)

Appendix 'h' – Graphs Showing Trends Towards Interactions from Quantitative Analysis in Empirical Paper

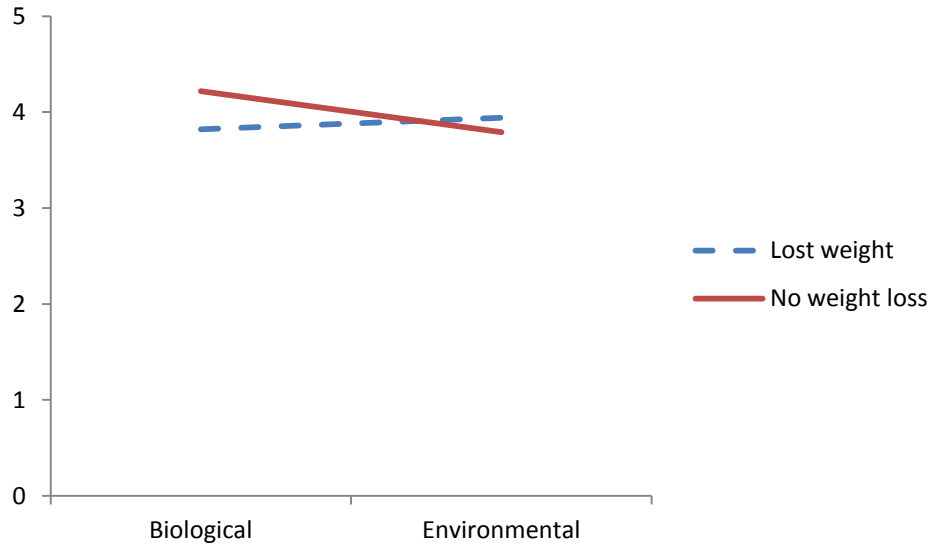

Figure 1 Interaction between weight status and information sheet for the variable "How much do you want to help Hannah with regards to her weight?"

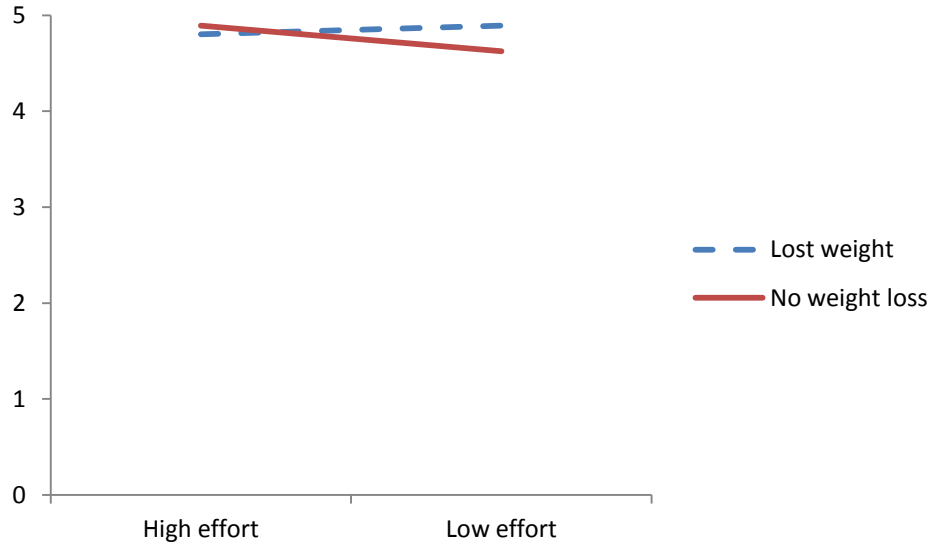

Figure 2 Interaction between weight status and effort to lose weight for the variable "How much do you want to help Hannah with regards to her academic work?"

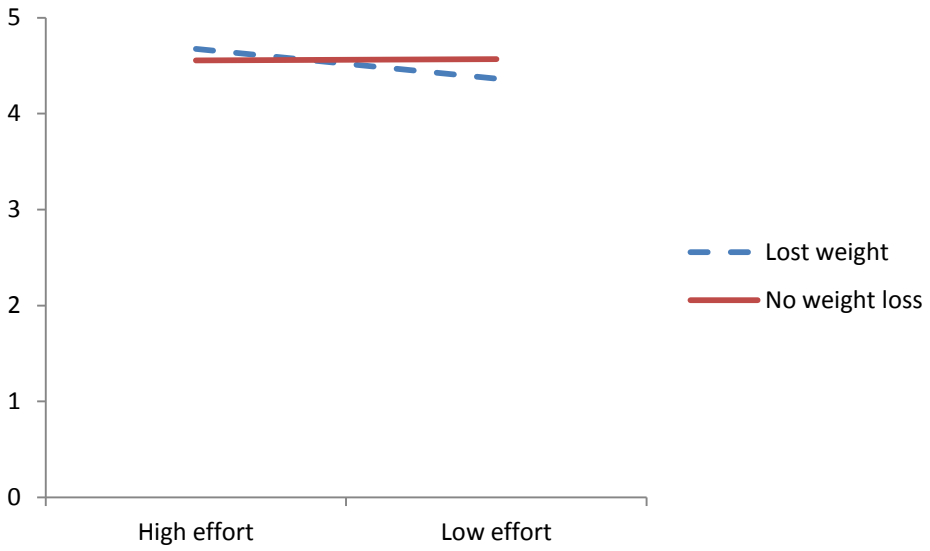

Figure 3 Interaction between weight status and effort to lose weight for the variable “How much do you want to help Hannah with other aspects of her school career?”

Appendix 'i' - Codes Generated Through Qualitative Analysis

Code	Description	Cluster	Sub-theme	Theme
B	Improved self-confidence from losing weight	Psychological benefits of weight loss	**The importance of weight loss**	**The need for holistic well being**
C	Improved self-esteem from losing weight			
E	Happier from losing weight			
P	Improved emotional/psychological well-being from losing weight			
Q	Improved concentration			
Z	Weight loss leads to self-belief			
A	Thinking about weight/food disrupts concentration			
X	Low self-esteem/embarrassment from being overweight			
M	Improved physical well-being from losing weight	Physical benefits of weight loss		
D	More active/alert from losing weight			
K	More energy from weight loss			
I	More activities available as a consequence of weight loss			
T	Fitter from losing weight			
U	Less tired from losing weight			
C1	Being fit helps your brain			
H	Improved academic work from weight loss	Academic benefits of weight loss		
S2	Losing weight will improve school work			
F	Increased engagement/interest/motivation after weight loss			
W	Bullying impacts on school work			
Y	Low self-esteem impacts on school work/behaviour			
G	Less bullying	Social benefits of weight loss		
J	More friends/peer acceptance from weight loss			
S	More social			
O	Loss of friends impacts on learning			
D4	Promote self-worth as an intervention	Increase psychological well-being	**Weight is not a primary concern**	
C3	Self-confidence/self-esteem training			
V3	Increased self-belief needed to succeed			
L3	Discussions with school staff to build confidence as an intervention			

N3	Support and encouragement as an intervention			
W3	Nurture groups			
A4	SEAL lessons			
E4	Importance of emotional well-being			
T3	Don't focus on/make weight an issue	Focus away from weight		
J4	Promote other interests			
H3	Focus on strengths in other areas as an intervention			
P3	Celebrate successes in all areas as an intervention			
O4	Unnecessary focus on food and fat			
L	Success in one thing leads to benefits in another			
J3	Making tasks appropriate to ability to enable success			
C4	Build friendships as an intervention	Increase social support		
X2	Friendship group/buddy intervention			
Q2	Support from other overweight people			
O3	Promote acceptance of difference/inclusion	Accept difference		
K4	Challenge preconceptions about size			
L4	Awareness of celebrity airbrushing			
B1	Individuality should be encouraged			
F4	No other changes needed	Weight change is a low priority		
N4	Being obsessed with being thin is more of a problem than obesity			
U2	Help is only needed if significant disruption to life			
H2	Confident to provide support/further support is not needed			
M1	Lack of time would prevent help		**Feeling unable to help**	Barriers to change
P1	Not knowing what to do			
I3	Needing to understand the cause of obesity to help			
T1	Not understanding problems			
M2	Advice needed on how to provide support			
B2	Providing weight related support is not part of a teachers job			
P4	Only so much can be done at school			

D1/F1	Unsupportive parents		**Parents are responsible and unhelpful**	
G1	Parents are responsible/cause			
A2	Difficulty in supporting parents			
R2	Obesity caused by neglect			
I4	Obesity is caused by an addiction to food		**Change must be self-driven**	
H1	Difficulty in changing attitude to food and exercise			
L1	Low motivation to change/willpower			
N1	Lack of self control would be a barrier to help			
H4	Positive attitude to food and exercise needed			
O1	Lack of success already			
G4	Promote sense of control over changes/goals			
X1	Not having the right to intervene			
R1	Change needs to be for the individual not imposed			
I1	Not wanting to interfere/add pressure		**Fear of Doing Harm**	
E1	Difficulty in speaking about weight			
Q1	Not wanting to cause an eating disorder			
S1	Not wanting to cause upset			
T2	Not wanting to cause harm by giving the wrong advice			
G2	Not wanting to cause conflict with parents			
J2	Obesity is a sensitive/emotive issue			
J1	Not wanting to single out a child/draw negative attention to them			
W1	Emotions as a cause for overeating			
V1	Child as vulnerable emotionally			
Y2	Support needed at secondary school	Supportive interventions	**Supportive**	Facilitating successful change
Z2	Anti-bullying policy			
Q4	Additional academic support			
W2	Reward system to promote healthy lifestyle			
z2	Targeted learning plan			
K3	Making physical activity more fun/engaging			
Q3	Cookery clubs as an intervention			
M3	Providing opportunities to succeed in sport and exercise			
P2	Positive role models to promote behaviour change			
E3	Wanting to provide support			

F3	Family intervention required	Interventions should include parents	**Systemic**
G3	Parental support is needed to succeed		
S3	Wanting to work with parents		
R4	Circle time as an intervention	Involve peer group	
N2	Whole class/whole school lessons as an intervention		
B4	Whole school/class approach as an intervention		
Y1	Class weight loss targets		
V2	Being overweight requires specialist support	Role of specialists	
A3	Dietician		
Z1	Sports coach		
R3	School nurse/doctor		
D3	Psychological support needed		
C2	Support needs a coordinated response		
O2	Educate about the dangers of excess weight		
Z3	Education about a healthy lifestyle is needed to succeed	Role of the teacher	
X3	Ensure understanding of why change is needed		
L2	Diet and exercise plan is needed	Individual changes to eating and exercise	
D2	Healthy eating needed to succeed		
E2	Monitor food intake/exercise		
F2	Sports club/physical activity needed to succeed		
U3	Graded exposure to changes	Change should be steady and long term	**Sustainable**
V	Better eating habits needed for long term change		
K2	Support is needed for future lifestyle changes		

Miscellaneous		Frequency
I2	First-hand experience of problems with weight increases confidence	1
M4	Obesity is a problem	2
K1	Not being responsible/in control	1
A1	Self awareness leads to improvements	1
N	No link between weight loss and academic ability	1

Y3	Seeing rewards as other than food	2
S4	Visualisation	1
T4	Positive Thinking	1
U4	Mantra repetition	1
R	Gain experience	1

Appendix 'j' – Ethical Approval Email

REGISTRY RESEARCH UNIT

ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Name of applicant: Ben Holmes… **Faculty/School/Department:** HLS – Clinical Psychology

Research project title: A questionnaire to explore how perceptions of controllability in obesity impact on helping behaviour

Comments by the reviewer

1. Evaluation of the ethics of the proposal:

The proposed study addresses a clear knowledge gap in the current research literature with a carefully thought through research question and methodology. The applicant has appropriately considered and addressed ethical issues relevant to the proposed study, and I have no concerns in this regard.

2. Evaluation of the participant information sheet and consent form:

The participant information sheet addresses the main ethical considerations, but needs to be amended as follows:

- It would benefit from a clear title indicating that it is a "Participant Information Sheet".
- The final version should be printed on headed paper from Coventry University Clinical Psychology Department.
- The contact details for the principal researcher should include a contact address and telephone number. This should be the Clinical Psychology Department address and telephone number. Contact details of one of the supervisors could also be included.
- I would like to see the information presented more clearly. In particular, the form should include sub-headings to help to present the information in a clearly structured and easy-to-read format for potential participants. (For example, this could include sections on: "The purpose of the study; Do I have to take part?; What will happen if I take part?; Possible benefits and disadvantages of taking part; What if I decide that I no longer want to participate in the research?; Who is organising and funding the research?; Who has reviewed the study?; What if I have any questions or concerns? What do I do now?"). These suggested sub-headings are just a guide for the applicant, and I would not necessarily expect all of them to be used in the participant information sheet.

The consent form is ethically appropriate, though the final version of this should also be printed on Coventry University headed paper.

3. Recommendation:

(Please indicate as appropriate and advise on any conditions. If there any conditions, the applicant will be required to resubmit his/her application and this will be sent to the same reviewer).

[ ] Approved - no conditions attached

[X] Approved with minor conditions (no need to resubmit)

Approval is given on the condition that the applicant will make the amendments to the participant information sheet as recommended in section 2 of this form. The final version of the participant information sheet should then be seen and approved by the supervisors of the research project (and it is the responsibility of the applicant to ensure that this happens).

[ ] Conditional upon the following – please use additional sheets if necessary (please re-submit application)

[ ] Rejected for the following reason(s) – please use other side if necessary

[ ] Further advice/notes - please use other side if necessary

Name of reviewer: Dr Tom Patterson.....

Signature: .....

Date: 11th March 2011 .....

Appendix ‘k’ – Publication Guidelines for Authors

Chapter I: Literature Review - Obesity Reviews

Chapter II: Empirical Paper – British Journal of Health Psychology

Chapter III: Reflective Paper – Clinical Psychology Forum

WILEY-BLACKWELL

Obesity Reviews

An Official Journal of the International Association for the Study of Obesity

Edited by:
Professor David York

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Online ISSN: 1467-789X
Frequency: Monthly
Current Volume: 13 / 2012
ISI Journal Citation Reports® Ranking: 2010: Endocrinology & Metabolism: 14 / 116
Impact Factor: 5.862

Author Guidelines

Obesity Reviews publishes state of the art reviews, written by experts in the field of obesity research. The journal is published monthly; each issue is devoted to a highly important and timely topic in this area. Every issue will contain 5-8 authoritative, well referenced and illustrated reviews on all aspects of the specific theme of the issue.

Submission is considered on the conditions that papers are previously unpublished, and are not offered simultaneously elsewhere; that all authors have read and approved the content, and all authors have also declared all competing interests; and that the work complies with Ethical Policies of the journal, and has been conducted under internationally accepted ethical standards after relevant ethical review. It is highly recommended you read this policy and complete any necessary documentation prior to your submission.

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The journal operates a stringent peer review process. All manuscripts will be reviewed by the Editors, members of the Editorial Board, or other expert reviewers. At the discretion of the Editors, the manuscript may be returned immediately without full review, if deemed not competitive or outside the realm of interests of the majority of the readership of the Journal. The decision (reject, invite revision, accept) letter will be conveyed through *Obesity Reviews* ScholarOne Manuscripts, coming directly from the Editor who has assumed responsibility for the manuscript's review. Editorial decisions are based not just on technical merit of the work, but also on other factors such as the priority for publication and the relevance to the Journal's general readership. All papers are judged in relation to other submissions currently under consideration. Rebuttals to rejected manuscripts are strongly discouraged and requests for resubmission of rejected manuscripts are generally not granted.

Publication ethics

Obesity Reviews is a member of the UK Committee on Publication Ethics and subscribes to its recommendations (Committee on Publication Ethics [COPE]: guidelines on good publication practice, www.publicationethics.org.uk). Best Practice Guidelines on Publication Ethics are also available from http://www.blackwellpublishing.com/publicationethics/ (Graf C, Wager E, Bowman A, et al., Int J Clin Pract 2007; 61 [suppl 152]: 126). The Editors reserve the right to reject a paper on ethical grounds. All authors are responsible for adhering to guidelines on good publication practice.

No paper can be published in the Journal unless it meets all of these requirements.

The corresponding author must provide an e-mail address for communication with the Editors and the Publisher.

The Editors retain the usual right to modify the style and length of a contribution (major changes being agreed with the corresponding author) and to decide the time of publication.

Manuscript format

Reviews must be written in English and are subjected to editorial and peer review. Published articles are 8-10 pages in extent. (For guidance purposes, 10 typeset pages equates to approximately 8,300 words; text should be reduced if figures/tables are included to stay within the 10 page limit). Thus, during the revision process, authors may need to reduce the length of their articles. Alternatively, authors unable to do this will pay a page charge of £80.00 for each additional printed page beyond 10 pages (including tables and figures).

Full details and guidance on the preparation of all material (text, tables and figures) can be found here.

Possible comments and suggestions of the editor may be sent to the author(s), who authorise(s) the publication of the article in the revised form. Proof reading will be reduced to a minimum.

General advice about the presentation of manuscripts:

- All pages should be numbered.
- The name and address and telephone and fax numbers of the author to whom correspondence and proofs should be sent should be included on the title page and the covering letter.
- Do not use abbreviations.
- All scientific units should be expressed in SI units.
- A copy of the manuscript should be kept by the authors for reference.
- An acknowledgement of receipt of the manuscript will be sent by the Journal.
- Manuscripts rejected for publication will not be returned.

Title Page

The title page should contain: (1) the title of the article, (2) the name of each author (first name and surname preferred), (3) the name of the department(s) and institution(s) to which the authors belong, (4) three to four key words, (5) a running title, (6) acknowledgements, (7) address of corresponding author and e-mail address, (8) potential conflicts of interest.

Main text

Review articles should be divided into: (1) abstract (about 200 words), (2) introduction, (3) text subdivided in paragraphs, (4) conclusion or discussion. Authors are particularly encouraged to use tables, diagrams and figures. Personal conclusions and practical applications are welcome.

Abbreviations

Abbreviations should be explained at the beginning of the manuscript and listed in the order in which they appear. Avoid abbreviations in the title and in the abstract.

Drug Names

Generic names should, in general, be used. If an author so desires, brand names may be inserted in parentheses.

References

References should be cited numerically in the order they appear in the text. Identify references in text, tables and legends by Arabic numerals in parentheses or as superscripts; authors of unpublished work which has not yet been accepted for publication must be included in the text only (e.g. J-P Després & MJ Stock - unpublished data). Please provide the names of all authors, unless there are more than 7 authors, in which case, please list only the first 3 authors, followed by *et al*. References should be listed and journal titles abbreviated according to the style used by Index Medicus; examples are given below.

Examples of journal references:

- Castonguay TW, Dallman MF, Stern JS. Some metabolic and behavioural effects of adrenalectomy in obese Zucker rats. *Am J Physiol* 1986; **251:** R923-R933.
- Cann PA, Rovati LC, Smart H. Loxiglumide, a CCK-A antagonist, in irritable bowel syndrome: a pilot multicentre clinical study (Abstract). *Gastroent* 1993; **104:** A486.
- Maher VMG, Thompson GR. Analysis of evidence from cholesterol-lowering and regression trials. *J Drug Dev* Suppl 1990; **3/1:** 199-203.

Examples of book references:

- Lissner L, Bengtsson C, Lapidus L. Body weight variability and mortality in the Gothenburg Prospective Studies on men and women. In: Bjorntorp P, Rossner S (eds). *Obesity in Europe 88: Proceedings of the First European Congress on Obesity*. Libbey: London, 1989, pp 55-60.
- Paul AA, Southgate DAT (eds) *McCance and Widdowson's The composition of foods*. 4th edn. HMSO: London, 1978.
- National Research Council. *Diet and health*, National Academy Press: Washington DC 1989.

Example of web reference:

- Beckleheimer, J. (1994). How do you cite URLs in a bibliography? [WWW document]. URL http://www.nrlssc.navy.mil/meta/bibliography.html

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Short reviews on "National or Regional prevalence of obesity"
Short review articles should also meet the following specific criteria:

Manuscript - should not exceed 1500 words and should be typed double-spaced.

Title - The standard title format is:
'Prevalence of obesity in name of the country or region of the world'
or
'Prevalence of obesity and metabolic syndrome in name of the country or region of the world'.

Abstract - should provide prevalence data in the different age and gender groups, and time trends, i.e. report on changes over time.

Tables - Up to two can be included.

Figures - Up to two can be included.

References - Up to 10 can be cited numerically in the order they appear in the text.

NB: Specify whether height and weight data are self-reported or measured. It is preferable to demonstrate time trends in the prevalence of obesity so that it clearly shows how seriously the situation is developing.

Case reports
A case report should also meet the following specific criteria:

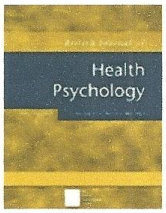
Manuscript - should not exceed 700 words.

Tables and Figures - Up to two in total (figures and/or tables) can be included.

References - Up to 10 can be cited numerically in the order they appear in the text.

Top

British Journal of Health Psychology



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The aim of the British Journal of Health Psychology is to provide a forum for high quality research relating to health and illness. The scope of the journal includes all areas of health psychology across the life span, ranging from experimental and clinical research on aetiology and the management of acute and chronic illness, responses to ill-health, screening and medical procedures, to research on health behaviour and psychological aspects of prevention. Research carried out at the individual, group and community levels is welcome, and submissions concerning clinical applications and interventions are particularly encouraged.

The types of paper invited are:

- papers reporting original empirical investigations;
- theoretical papers which may be analyses or commentaries on established theories in health psychology, or presentations of theoretical innovations;
- review papers, which should aim to provide systematic overviews, evaluations and interpretations of research in a given field of health psychology; and

• methodological papers dealing with methodological issues of particular relevance to health psychology.

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

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• the content of the paper falls within the scope of the Journal

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5. Manuscript requirements

• Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

• Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. A template can be downloaded from here.

• **Statement of Contribution:** All authors are required to provide a clear summary of 'what is already known on this subject?' and 'what does this study add?'. The 2-3 (maximum) sentences for each point should identify existing research knowledge relating to the specific research question/topic and a summary of the new knowledge added by your study. Under each of these headings, please provide 2-3 clear outcome statements (not process statements of what the paper does); the statements for 'what does this study add?' should be presented as bullet points of no more than 100 characters each. The Statement of Contribution should be a separate file.

• Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.

• Figures can be included at the end of the document or attached as separate files, carefully labelled in initial

capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

• For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, Results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions.

• For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.

• SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.

• In normal circumstances, effect size should be incorporated.

• Authors are requested to avoid the use of sexist language.

• Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

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12. The Later Stages

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^ Top of Page